

Public Notice of an Air Pollution Permit Application Review

Facility Description.

WPL - Columbia Energy Center, W8375 Murray Road, Pardeeville, Columbia County, Wisconsin, FID 111003090, submitted to the Department of Natural Resources (DNR) a permit application, including plans and specifications for operation of an electric utility for power generation. Air Pollution Part 70 source operation permit revision no. 111003090-P26.

Application Review.

DNR has made a preliminary determination that the application meets state and federal air pollution control requirements and that the permit should be approved. You can review the permit application, the DNR's analysis and draft permit prepared by the DNR at the Department of Natural Resources Bureau of Air Management Headquarters, Seventh Floor, 101 South Webster Street, Madison, Wisconsin, 53703; and at the Portage Public Library, 253 West Edgewater St. Portage, WI, or contact Andrew M. Stewart at (608) 266-6876, or by e-mail at andrew.stewart@wisconsin.gov. This information is also available for downloading from the Internet at <http://dnr.wi.gov/air/permits/permitsearch.html>.

Public Comments.

Interested persons wishing to comment on the application or DNR's review of it or wishing to request a public hearing should do so within 30 days of publication of this notice and send comments or requests to:

Wisconsin Department of Natural Resources, Bureau of Air Management, 101 S. Webster Street Box 7921, Madison, WI 53707-7921. Attn.: Andrew M. Stewart.

If a hearing is requested, the requester shall indicate their interest in the permit and the reasons why a hearing is warranted. Information on the public commenting and hearing process is available at <http://dnr.wi.gov/air/citguide.htm>.

Reasonable accommodation, including the provision of informational material in an alternative format, will be provided for qualified individuals with disabilities upon request.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

By /s/ John H. Melby, Jr.

John H. Melby, Jr.
Director

**ANALYSIS AND PRELIMINARY DETERMINATION FOR THE
SIGNIFICANT REVISION OF OPERATION PERMIT
FOR
WPL-COLUMBIA ENERGY CENTER,
LOCATED AT
W8375 MURRAY ROAD,
PARDEEVILLE, COLUMBIA COUNTY, WISCONSIN**

Significant Operation Permit Revision No.: 111003090-P26
Facility ID No.: 111003090

This review was performed by the Wisconsin Department of Natural Resources, Southeast Region Air Program, Sturtevant Service Center in accordance with Chapter 285, Wis. Stats., and Chapters NR 400 to NR 499, Wis. Adm. Code.

Analysis, Preliminary Determination
and Draft Permit prepared by:

Andrew M Stewart

Date: 5/12/11

Approval Element	Signature	Date
Preliminary Determination Document (including calculations):	Barbara Pavliscak	5/13/2011
Applicable Requirements:	Barbara Pavliscak	5/13/2011
Compliance Documentation Methods (compliance inspector concurrence):	Andrew M. Stewart	5/12/11
Compliance Plan and Schedule:	N\A	
Federal Enforceability of Permit Conditions (synthetic minor conditions):	N\A	

Approved for Public Review and Comment: John H. Melby

Date: 5/18/11

cc: Barb Pavliscak — AM/7

Tom Roushar- SCR

Portage Free Library, 804 McFarlane Rd., Portage, WI 53901

INTRODUCTION

Any person holding an air pollution control permit who seeks a revision of the permit shall file a written petition for revision of the permit with the Department. The petition shall identify the permit to be revised, outline the specific provisions for which revision is sought, and set forth the reasons why revision is sought. Subject sources shall follow the procedures set forth in s. NR 407.13, Wis. Adm. Code. The application is then reviewed by the Department following the provisions set forth in ss. 285.62, 285.63, and 285.64, Wis. Stats.

Subject sources are to be reviewed with respect to the equipment and facility description provided in the application and for the resulting impact upon the air quality. The review ensures compliance with all applicable rules and statutory requirements. The preliminary determination will show why the source(s) should be approved, conditionally approved, or disapproved. It will encompass emission calculations and an air quality analysis using US EPA models, if applicable. Emissions from volatile organic compound (VOC) sources and small sources whose emissions are known to be insignificant are normally not modeled. As a precautionary note, the emission estimates are based on US EPA emission factors (AP-42) or theoretical data and can vary from actual stack test data.

A final decision on the significant operation permit revision will not be made until the public has had an opportunity to comment on the Department's analysis, preliminary determination and draft permit. The conditions proposed in the draft permit may be revised in any final permit issued based on comments received or further evaluation by the Department.

I. GENERAL INFORMATION

Owner/Operator:	WPL - Columbia Energy Center W8375 Murray Road Pardeeville, WI 53954
Responsible Official:	Mr. Jerald Lokenvitz, Plant Manager 608-742-0715
Facility Contact Person:	Steve Jackson, Senior Environmental Specialist 608-458-5704

II. REVISION DESCRIPTION

There is no construction permit associated with this revision. The department is issuing this revision to WPL-Columbia Energy's operation permit in response to EPA's October 8, 2009 Order Responding to Sierra Club's Petition that the Administrator Object to Issuance of State Operating Permit (Petition Number V-2008-1). The primary issue raised as part of the petition dealt with the 2006 replacement of the economizer, final superheater, and related components on Boiler B21 (Unit 1). The October 8, 2009 EPA order required the department to "reevaluate the physical change in light of the correct PSD standards for determining actual emissions from the physical change at an electric utility steam generating unit." EPA Order at 10.

This operation permit revision does not address the Notice and Finding of Violation Concerning the Columbia facility issued by US EPA on December 14, 2010. Any permit revision required as an outcome of that action will occur under a separate permitting action. Language acknowledging the Notice and Finding of Violation has been added to the Permit Shield section of 111003090-P23.

The department believes it is appropriate to take this action to resolve the issues related to EPA's Order. Discussion of the issues on which EPA granted the Petitioners' request in the Order follows.

Issue:

WDNR misapplied the regulatory standard for determining whether the replacement of the economizer/superheater in 2006 resulted in a significant net emissions increase.

Response:

On December 14, 2009, EPA issued a Notice and Finding of Violation (NOV/FOV) to Wisconsin Power and Light Company (WPL), Alliant Energy Corporation, Madison Gas and Electric Company, Wisconsin Electric Power Company, and Wisconsin Public Service Corporation (Respondents). Because EPA has alleged that WPL – Columbia Energy Center is not in compliance with all applicable Clean Air Act requirements, including those associated with the replacement of the economizer/superheater in 2006, the WDNR does not believe it appropriate to pursue an separate review of the allegation at this time consistent with the October 29, 2007 Air Compliance and Enforcement Memorandum of Understanding Between the Wisconsin Department of Natural Resources and the United States Environmental Protection Agency-Region 5.

However, given the issue at hand, the WDNR does feel it appropriate to revise WPL – Columbia Energy Center's operation permit to remove the permit shield for Boilers B21 and B22 until the enforcement situation is resolved. The department will reopen the permit at the conclusion of the enforcement action to incorporate into the permit any applicable requirements, compliance schedules or other terms developed or required by the resolution of the enforcement action.

Issue:

WDNR failed to adequately respond to significant comments concerning whether PSD was triggered by the physical change, and that the failure to respond to comments may have resulted in a flaw in the permit regarding PSD requirements.

Response:

The WDNR will be, in response to EPA's order, instituting a new program wide policy better directing permit writers on how to follow up on information provided during the public comment period and how to response to these types of significant comments.

As the WDNR does not believe it appropriate to pursue a separate review of the allegations due to the enforcement action being taken by EPA, it will not attempt to resolve the conflict related to calculations of the hourly heat input and the estimate of regained hours of operation as part of this permit action.

III. SOURCE DESCRIPTION**Significant Emissions Units.**

This facility includes 2 similar 527 MW pulverized coal fired boiler/generator sets and associated equipment. The facility also includes coal handling equipment, including rail car dumpers, conveyors, storage piles, and reclaim equipment. Flyash generated is handled pneumatically, stored in temporary silos, and sold for reuse. Bottom ash is sluiced wet, and landfilled or used for other purposes. All of these emissions units were reviewed in the preliminary determination for the previous operation permit and remain unchanged as a result of this revision. Please refer to the preliminary determination for operation permit 111003090-P21 for a detailed description of these emissions units.

Insignificant Emissions Units.

- | | |
|---|---|
| <input checked="" type="checkbox"/> Portable Vacuum Truck (2) | <input checked="" type="checkbox"/> Incineration of Boiler/turbine nonhazardous chemical cleaner |
| <input checked="" type="checkbox"/> Floor Sweepers (1) | <input checked="" type="checkbox"/> Two (2) 150,000 gal fuel oil storage tanks |
| <input checked="" type="checkbox"/> Ash Silos (2 cement, 2 steel) | <input checked="" type="checkbox"/> One (1) 2,000 gallon gasoline tank |
| <input checked="" type="checkbox"/> Cold Solvent Parts Cleaners (48"x28" or less) | <input checked="" type="checkbox"/> One (1) 10,000 gal fuel oil storage tank |
| <input checked="" type="checkbox"/> Non PCB Power Transformers | <input checked="" type="checkbox"/> Coal System Sample House - involves the transfer of coal and collection of a coal sample for analysis |
| <input checked="" type="checkbox"/> Coal Dust Suppress. Equip. and Application | <input checked="" type="checkbox"/> Junction House - Coal conveying system transfer point |
| <input checked="" type="checkbox"/> Combustion of Oil Soaked Adsorbents | <input checked="" type="checkbox"/> Unit 1 Coal Silo Vent System - Six silos are vented through this system |
| <input checked="" type="checkbox"/> Combustion of Petrol. Soaked Soils | <input checked="" type="checkbox"/> Unit 2 Coal Silo Vent System - Six silos are vented through this system |
| <input checked="" type="checkbox"/> Turbine Clean and Dirt Lube Oil Storage Tanks | |
| <input checked="" type="checkbox"/> Ethylene Glycol Storage Tanks (2) | |
| <input checked="" type="checkbox"/> Unit 1 & 2 Turbine Oil Systems | |
| <input checked="" type="checkbox"/> Rail Car Switching Engines | |
| <input checked="" type="checkbox"/> Mobile Coal Moving Equipment | |

IV. CROSS MEDIA IMPACTS

Disposal of flyash and bottom ash.

V. EMISSION CALCULATIONS.

The proposed revision does not result in any change to existing emissions.

VI. WISCONSIN HAZARDOUS AIR POLLUTANT (NR 445) REVIEW

The proposed action does not result in any change to any hazardous air pollutant emissions.

VII. COMPLIANCE AND TECHNOLOGY REVIEW AND RULE APPLICABILITY

The department is issuing this operation permit revision in response to EPA's October 8, 2009 Order Responding to Sierra Club's Request that the Administrator Object to Issuance of State Operating Permit (Petition Number V-2008-1). The primary issue raised as part of the petition dealt with the 2006 replacement of the economizer, final superheater, and related components on Boiler B21 (Unit 1). The October 8, 2009 EPA order required the department to "reevaluate the physical change in light of the correct PSD standards for determining actual emissions from the physical change at an electric utility steam generating unit." EPA Order at 10.

This operation permit revision does not address the Notice and Finding of Violation Concerning the Columbia facility issued by US EPA on December 14, 2010. Any permit revision required as an outcome of that action will occur under a separate action. Language acknowledging the Notice and Finding of Violation has been added to the Permit Shield section of 111003090-P26.

VIII. AIR QUALITY REVIEW

The proposed revision does not affect any emission limitations. Therefore, modeling is not necessary for this operation permit revision. WPL – Columbia was previously modeled during the 111003090-P20 operation permit renewal.

IX. FACILITY AND PROJECT CLASSIFICATION**A. Existing Facility Status.**

Unchanged. Existing facility is a PSD major source. Facility is also a major source for federal HAPs. Facility is a Part 70 major source.

B. Summary.

NSR Applicability	Existing Facility	
	Major	Minor
PSD	x	
Non-Attainment	x	
Federal HAP	x	

Part 70 Applicability	Existing Facility		
	Part 70	FESOP (Syn. Minor)	non-part 70
Status	x		

X. ENVIRONMENTAL ANALYSIS

The proposed revision is a Type IV action under Chapter NR 150, Wis. Adm. Code, because there is no proposed increase in emissions from the existing source.

A news release is not required for this proposal. It is proposed that an environmental assessment not be completed.

XI. CRITERIA FOR OPERATION PERMIT APPROVAL

The Department finds that:

1. The facility will meet applicable emission limits and other requirements.
2. The facility will not cause nor exacerbate a violation of an ambient air quality standard or ambient air increment.

XII. PRELIMINARY DETERMINATIONS OPERATION PERMIT REVISION NO. 111003090-P26

The Wisconsin Department of Natural Resources has reviewed the materials relevant to this determination that the facility, when operated consistent with the application and subsequent information submitted, will be able to meet the emission limits and conditions included in the attached Draft Permit. Furthermore, the Department hereby makes a preliminary determination that a revised operation permit may be issued with the following Draft Applicable Limits and Draft Permit Conditions. A final decision regarding emission limits and conditions will be made after the Department has reviewed and evaluated all comments received during the public comment period. The proposed emission limits and other proposed conditions in the Draft Permit are written in the same form that they will appear in the operation permit revision. These proposed conditions may be changed as a result of public comments or further evaluation by the Department. The United States Environmental Protection Agency will be given the opportunity to comment on the operation permit revision of any Part-70 source prior to the Department making a final decision on the operation permit revision.

**DRAFT AIR POLLUTION CONTROL OPERATION PERMIT REVISION AND
CONSTRUCTION PERMIT**

EI FACILITY NO: 111003090

OPERATION PERMIT NO.: 111003090-P23

CONSTRUCTION PERMIT NO: 10-KLF-055

TYPE: Significant Revision of a Part 70 Source Operating Permit

Construction Permit to limit SO₂ from Boiler B21 (Unit 1) (Permit 10-KLF-055)

In compliance with the provisions of Chapter 285, Wis. Stats., and Chapters NR 400 to NR 499, Wis. Adm. Code,

Name of Source: WPL - Columbia Energy Center

Street Address: W8375 Murray Road,
Pardeeville, Columbia County, Wisconsin

Responsible Official, & Title: Mr. Jerald Lokenvitz, Plant Manager

is authorized to operate an electric utility for power generation in conformity with the conditions herein. The facility is also authorized to construct, modify, and operate the 2006 economizer/superheater project on Boiler B21 (Unit 1).

The authority to construct, modify, replace and/or reconstruct any process covered in this Construction Permit expires immediately upon issuance of the permit. This approved period to construct, modify, replace and/or reconstruct may not be extended. The conditions of this construction permit are permanent and may only be revised through a revision of the construction permit or through the issuance of a new construction permit. [s. 285.60(1), Wis. Stats.]

THIS REVISED OPERATION PERMIT EXPIRES

[Section NR 407.09(1)(b)1., Wis. Adm. Code]

09/02/2013

A renewal application must be submitted at least 6 months, but not more than 18 months, prior to this expiration date [ss. 285.66(3)(a), Wis. Stats. and NR 407.04(2), Wis. Adm. Code].

No permittee may continue operation of a source after the operation permit expires, unless the permittee submits a timely and complete application for renewal of the permit. If you submit a timely and complete application for renewal, the existing operation permit will not expire until the renewal application has been finally acted upon by DNR. [ss. 227.51(2), Wis. Stats. and NR 407.04(2), Wis. Adm. Code].

This authorization requires compliance by the permit holder with the emission limitations, monitoring requirements and other terms and conditions set forth in Parts I, II, and III hereof.

Dated at Fitchburg, Wisconsin, _____

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

By DRAFT
Thomas Roushar
Air Management Program Supervisor

NOTICE:

*******Attention to All Individuals Reviewing the Draft Permit*******

The portions of the attached Draft Permit that are shaded in gray identify those conditions that are being changed as a result of the construction permit and significant operation permit revision. Reviewers may submit comments on only gray shaded portions of the permit at this time.

PREAMBLE

An Asterisk (*) throughout this document denotes legal authority, limitations and conditions which are not federally enforceable.

Concurrent Permit Actions Performed as Part of the Review and Issuance of Permit 111003090-P21.

Construction Permits Issued in Conjunction with Permit 111003090-P23 Under s. 285.61(8), Wis. Stats.: 10-KLF-055

Revised Construction Permits Issued in Conjunction with Permit 111003090-P23 Under s. NR 406.11, Wis. Adm. Code: None

Operation (CONOP) Permits Issued in Conjunction with Permit 111003090-P23 Under s. 285.62(7)(b), Wis. Stats.: None

Revised Operation Permits Issued in Conjunction with Permit 111003090-P23 Under ss. NR 407.11, 407.12, 407.13 and/or 407.14, Wis. Adm. Code: None

The following permits, orders, etc., are adopted, under ss. 285.65(3), Wis. Stats., NR 406.11(1)(c) and (d), NR 407.09(2)(d) and NR 407.15(3) and (4), Wis. Adm. Code, by Permit 111003090-P23 which then becomes the primary enforceable document: 111003090-P21, 10-KLF-055

Stack and Process Index.

1. Stack S10, Boiler B20 - #2 Fuel Oil Boiler - Rated at 182.4 mm Btu per hour - Installed 1971
2. Stack S11, Boiler B21 - Coal Fired Boiler - Rated at 5885 mm Btu per hour - Installed February 1971
3. Stack S12, Boiler B22 - Coal Fired Boiler - Rated at 5885 mm Btu per hour - Installed 1975
4. Stack S01, Process P01 - Dry Flyash Handling System Unit 1 - Installed 1982
5. Stack S02, Process P02 - Dry Flyash Handling System Unit 2 - Installed 1975
6. Stack S03, Process P03 - Coal Train Car Dumping System - Installed 1971

7. Stack S06, Process P06 - Coal Crusher House - Installed 1971
8. Stack S07, Process P07 - Unit 2 Coal Reclaim System P07 - Installed 1981
9. Stack S20, Process P20 - Coal Conveying System Tripper Room Dust Collection System - Installed 1971
10. Stack S21, Process P21 - Coal Pile Handling Operations - Installed 1971
11. Stack S23, Process P23 - 2000 kW Diesel Emergency Generator – Installed 2005
12. Stack S22, Process P22 – Cooling Towers

Insignificant Emission Units

- | | |
|---|---|
| <input checked="" type="checkbox"/> Maintenance of Grounds, Equipment, and Buildings | <input checked="" type="checkbox"/> Coal Dust Suppress. Equip. and Application |
| <input checked="" type="checkbox"/> Boiler, Turbine, and HVAC System Maintenance | <input checked="" type="checkbox"/> Combustion of Oil Soaked Adsorbents |
| <input checked="" type="checkbox"/> Pollution Control Equipment Maintenance | <input checked="" type="checkbox"/> Combustion of Petrol. Soaked Soils |
| <input checked="" type="checkbox"/> Internal Combustion Engines Used for Warehousing and Material Transport | <input checked="" type="checkbox"/> Turbine Clean and Dirt Lube Oil Storage Tanks |
| <input checked="" type="checkbox"/> Fire Control Equipment | <input checked="" type="checkbox"/> Ethylene Glycol Storage Tanks (2) |
| <input checked="" type="checkbox"/> Janitorial Services | <input checked="" type="checkbox"/> Unit 1 & 2 Turbine Oil Systems |
| <input checked="" type="checkbox"/> Office Activities | <input checked="" type="checkbox"/> Rail Car Switching Engines |
| <input checked="" type="checkbox"/> Convenience Water Heating | <input checked="" type="checkbox"/> Mobile Coal Moving Equipment |
| <input checked="" type="checkbox"/> Convenience Space Heating | <input checked="" type="checkbox"/> Incineration of Boiler/turbine nonhazardous chemical cleaner |
| <input checked="" type="checkbox"/> Fuel Oil Storage Tanks (<10,000 gal.) | <input checked="" type="checkbox"/> Two (2) 150,000 gal fuel oil storage tanks |
| <input checked="" type="checkbox"/> Stockpiled Contaminated Soils | <input checked="" type="checkbox"/> One (1) 2,000 gallon gasoline tank |
| <input checked="" type="checkbox"/> Demineralization and Oxygen Scavenging of Water for Boilers | <input checked="" type="checkbox"/> One (1) 10,000 gal fuel oil storage tank |
| <input checked="" type="checkbox"/> Purging of Natural Gas Lines | <input checked="" type="checkbox"/> Coal System Sample House - involves the transfer of coal and collection of a coal sample for analysis |
| <input checked="" type="checkbox"/> Sanitary Sewer and Plumbing Venting | <input checked="" type="checkbox"/> Junction House - Coal conveying system transfer point |
| <input checked="" type="checkbox"/> Portable Vacuum Truck (2) | <input checked="" type="checkbox"/> Unit 1 Coal Silo Vent System - Six silos are vented through this system |
| <input checked="" type="checkbox"/> Floor Sweepers (1) | <input checked="" type="checkbox"/> Unit 2 Coal Silo Vent System - Six silos are vented through this system |
| <input checked="" type="checkbox"/> Ash Silos (2 cement, 2 steel) | |
| <input checked="" type="checkbox"/> Cold Solvent Parts Cleaners (48"x28" or less) | |
| <input checked="" type="checkbox"/> Non PCB Power Transformers | |

Permit Shield — Unless precluded by the Administrator of the US EPA, compliance with all emission limitations in this operation permit is considered to be compliance with all emission limitations established under ss. 285.01 to 285.87, Wis. Stats., and emission limitations under the federal clean air act, that are applicable to the source if the permit includes the applicable limitation or if the Department determines that the emission limitations do not apply.

On December 14, 2009, EPA issued a Notice and Finding of Violation (NOV/FOV) to Wisconsin Power and Light Company (WPL), Alliant Energy Corporation, Madison Gas and Electric Company, Wisconsin Electric Power Company, and Wisconsin Public Service Corporation (Respondents). The Respondents own and operate the WPL – Columbia Energy Center. Because EPA has alleged that WPL – Columbia Energy Center is not in compliance with all applicable Clean Air Act requirements, the department cannot

issue a Title V permit to WPL – Columbia Energy Center that serves as a shield to the alleged violations. Therefore, the permit shield provided for in 42 U.S.C. § 7661c(f), 40 C.F.R. § 70.6(f), s. 28.63, Wis. Stats, and the permit shield section of this permit does not apply to, and compliance with the permit does not serve as proof of compliance with the violations noted in part C. of the December 14, 2009 NOV/FOV for Boilers B21 (Columbia - Unit 1) and B22 (Columbia - Unit 2). The department will reopen the permit at the conclusion of the enforcement action to incorporate into the permit any applicable requirements, compliance schedules or other terms developed or required by the resolution of the enforcement action.

The following emission limitations were reviewed in the analysis and preliminary determination and were determined not to apply to this stationary source:

Subject to the limitations under conditions I.F.1.a. and I.J.1.a., **Boilers B21 and B22** are not subject to NR 445, Wis. Adm. Code LAER requirements for arsenic because waste oil usage has been restricted so that potential arsenic emission levels that are below de minimis applicability values.

Boilers B21 and B22 are exempt from the periodic fuel sampling and analysis requirements of s. NR 439.085(2), Wis. Adm. Code, provided they operate a continuous sulfur dioxide emission monitor that meets the performance specification requirements of s. NR 439.09, Wis. Adm. Code, pursuant to s. NR 439.085(1)(c), Wis. Adm. Code.

Part I — The headings for the areas in the permit are defined below. The legal authority for these limitations or methods follows them in [brackets].

Pollutant – This area will note which pollutant is being regulated by the permit.

Limitations – This area will list all applicable emission limitations that apply to the source, including case-by-case limitations such as Latest Available Control Techniques (LACT), Best Available Control Technology (BACT), or Lowest Achievable Emission Rate (LAER). It will also list any voluntary restrictions on hours of operation, raw material use, or production rate requested by the permittee to limit potential to emit.

Compliance Demonstration – The compliance demonstration methods outlined in this area may be used to demonstrate compliance with the associated emission limit or work practice standard listed under the corresponding **Limitations** column. The compliance demonstration area contains limits on parameters or other mechanisms that will be monitored periodically to ensure compliance with the limitations. The requirement to test as well as initial and periodic test schedules, if testing is required, will be stated here. Notwithstanding the compliance determination methods which the owner or operator of a source is authorized to use under ch. NR 439, Wis. Adm. Code, the Department may use any relevant information or appropriate method to determine a source's compliance with applicable emission limitations.

Reference Test Methods, Recordkeeping, and Monitoring Requirements – Specific USEPA Reference test methods or other approved test methods will be contained in this area and are the methods that must be used whenever testing is required. A reference test method will be listed even if no testing is immediately required. Also included in this area are any recordkeeping requirements and their frequency and reporting requirements. Accuracy of monitoring equipment shall meet, at a minimum, the requirements of s. NR 439.055(3) and (4), Wis. Adm. Code, as specified in Part II of this permit.

Condition Type – This area will specify other conditions that are applicable to the entire facility that may not be tied to one specific pollutant.

Conditions – Specific conditions usually applicable to the entire facility or compliance requirements.

Compliance Demonstration – This area contains monitoring and testing requirements and methods to demonstrate compliance with the conditions.

PART II — This section contains the general limitations that the permittee must abide by. These requirements are standard for most sources of air pollutants so they are included in this section with every permit.

PART III -- This section contains the requirements of 40 CFR 64 Compliance Assurance Monitoring (CAM) that the permittee must abide by.

PART IV -- This section contains the requirements of s. NR 432, Wis. Adm. Code (40 CFR 97) Clean Air Interstate Rule (CAIR) that the permittee must abide by.

PART I

A. B20/S10 - #2 Fuel Oil Boiler - Rated at 182.4 mm Btu per hour - Installed 1971¹	
Pollutant: 1. Particulate Matter Emissions	
a. Limitations:	
(1) Emissions may not exceed 0.20 pounds per million Btu heat input. ² [ss. NR 415.06(1)(a), Wis. Adm. Code and 285.63(1)(b), Wis. Stats.]	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
(1) The permittee shall only fire #2 fuel oil in this boiler. ³ [ss. NR 407.09(1)(c)1.b., Wis. Adm. Code and 285.65(3) and 285.63(1)(a), Wis. Stats.]	(1) <u>Reference Test Method for Particulate Matter Emissions:</u> Whenever compliance emission testing is required, US EPA Method 5, including condensible backhalf emissions, shall be used to demonstrate compliance. [s. NR 439.06(1), Wis. Adm. Code] (2) The permittee shall retain on site, plans and specifications that indicate the boiler's fuel usage design capabilities. ⁴ [s. NR 439.04(1)(d), Wis. Adm. Code]
Pollutant: 2. Visible Emissions	
a. Limitations:	
(1) 40% opacity [s. NR 431.04(1), Wis. Adm. Code]	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
(1) The permittee shall only fire natural gas and #2 fuel oil in this boiler. ⁵ [ss. 285.65(3) and 285.63(1)(a), Wis. Stats.]	(1) <u>Reference Test Method for Visible Emissions:</u> Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The permittee shall retain on site, plans and specifications that indicate the boiler's fuel usage design capabilities. ⁶ [s. NR 439.04(1)(d), Wis. Adm. Code]

1 The Department may revise this section under s. NR 407.14, Wis. Adm. Code, to address additional requirements for hazardous air pollutant emissions as required under section 112(j) of the Clean Air Act [42 U.S.C. 7412(j)]. Under s. 112(j)(2), an affected facility is required to submit a permit application if EPA fails to promulgate a standard for a source category (industrial boiler).

2 Section NR 415.06(1), Wis. Adm. Code limits particulate matter emissions from fuel burning installations such as B20 to 0.60 lb/mmBtu. This more restrictive limitation is necessary to ensure that national ambient air quality standards for particulate matter are attained and maintained.

3 Because the maximum theoretical emissions while firing these fuels are less than the allowable limit of 0.20 pounds per million Btu heat input, limiting the type of fuel used is adequate to demonstrate compliance with the particulate matter emission limit. Maximum theoretical particulate matter emissions were calculated using an emission factor of 2.0 pounds per thousand gallons of #2 fuel oil fired from AP-42, 5th edition, ch. 1.3.

4 These plans and specifications are sufficient because the boiler is designed to only burn natural gas and #2 fuel oil.

5 Natural gas and #2 fuel oil are clean burning fuels. It is not expected that the visible emission limitation of 40% opacity would be exceeded while firing these fuels. Therefore restricting the type of fuel used is adequate to ensure compliance with the emission limitation.

B. S11/B21 (Identified as Unit 1 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed February 1971.^{7,8} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, boiler cleaning waste liquids and waste oil. Please see the additional requirements that relate to these alternate operating scenarios for the boiler in I.C., I.D., I.E. and I.F. of this permit.

Pollutant: 1. Particulate Matter Emissions

a. Limitations:

(1) Emissions may not exceed 0.60 pounds per million Btu heat input. [s. NR 415.06(1)(a), Wis. Adm. Code]

(2) The permittee shall only fire:

(a) Coal, natural gas and #2 fuel oil as primary fuels in the boiler; and

(b) Wood fuel, petroleum contaminated soils and absorbents, boiler cleaning waste liquids and waste oil as alternate fuels in the boiler.

[ss. 285.65(3) and 285.63(1)(a), Wis. Stats.]

See section I.C. for additional requirements that apply while firing wood in the boiler. See section I.D. for additional requirements that apply while firing petroleum contaminated soil in the boiler. See section I.E. for additional requirements that apply while firing boiler cleaning waste liquids in the boiler. See section I.F. for additional requirements that apply while firing waste oil in the boiler.

b. Compliance Demonstration:

(1) The following compliance emission tests of the boiler shall be conducted to demonstrate compliance with the particulate matter emission limit in condition I.B.1.a.(1):

(a) Testing shall be conducted every 24 months as long as this permit remains valid;

(b) Each biennial test shall be performed within 90 days of the anniversary date of the issuance of this permit or within 90 days of an alternate date specified by the Department in writing;

(c) The permittee may request and the Department may approve a waiver from the required biennial testing provided the results of the most recently completed test demonstrate that particulate matter emissions are 50 percent or less of the applicable limitations in condition I.B.1.a.(1);

(d) This testing shall be conducted in accordance with condition I.T.3.a.(1);

[ss. NR 439.07 and NR 439.075(2)(a)1. and (3)(b), Wis. Adm. Code]

(2) The permittee shall operate an electrostatic precipitator control device on the boiler to control particulate matter emissions whenever the boiler is in operation with the

c. Test Methods, Recordkeeping, and Monitoring:

(1) Reference Test Method for Particulate Matter Emissions: Whenever compliance emission testing is required, US EPA Method 5, including condensible backhalf emissions, shall be used to demonstrate compliance.

[s. NR 439.06(1), Wis. Adm. Code]

(2) The permittee shall retain copies of the results of the tests required by condition I.B.1.b.(1) at the facility.

[s. NR 439.04(1)(a), Wis. Adm. Code]

(3) The permittee shall keep monthly records of:

(a) The type of each fuel fired in the boiler; and

(b) The amount of each fuel fired in the boiler.

[s. NR 439.04(1)(d), Wis. Adm. Code]

(4) The permittee shall verify that the electrostatic precipitator control alarm responds to changes in the operating range for the parameters listed in condition I.B.1.b.(3) through procedures in the Malfunction Prevention and Abatement Plan required by Part II of this permit.

[s. NR 439.055(2)(b), Wis. Adm. Code]

6 These plans and specifications are sufficient because the boiler is designed to only burn natural gas and #2 fuel oil.

7 **Note:** The requirements and emission limitations outlined in this section apply to the boiler at all times regardless of the fuel being fired.

8 This boiler is the subject of a December 14, 2009 NOV/FOV from EPA. Please see the Permit Shield section of this permit for further information on the implications of this enforcement action.

B. S11/B21 (Identified as Unit 1 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed February 1971.^{7, 8} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, boiler cleaning waste liquids and waste oil. Please see the additional requirements that relate to these alternate operating scenarios for the boiler in I.C., I.D., I.E. and I.F. of this permit.

Pollutant: 1. Particulate Matter Emissions

exception of periods of normal start-up and shut-down as defined in the Start-up and Shut-down Plan required by condition I.B.2.b.(4). [s. 285.63(1)(a), Wis. Stats.]

(3) The permittee shall monitor the following parameters for the electrostatic precipitator:

- (a) The primary voltage in volts;
- (b) The secondary voltage in volts;
- (c) The primary current in amps;
- (d) The secondary current in amps; and
- (e) The sparking rate, in sparks per minute.

[s. NR 439.055(1)(c), Wis. Adm. Code]

(4) The permittee shall perform internal inspections of the electrostatic precipitator not less than once every 18 months to ensure that the control equipment is operating properly.

[s. NR 407.09(4)(a)3.b., Wis. Adm. Code]

(5) The permittee shall prepare and follow a plan for periodical internal inspections of the boiler and boiler efficiency optimization. This plan shall include the frequency of these inspections and the items to be inspected. [s. NR 407.09(4)(a)3.b., Wis. Adm. Code]

(6) The permittee shall operate a flue gas conditioning system to enhance the efficiency of the electrostatic precipitator, as approved by the Department in writing. [s. 285.63(1)(a), Wis. Stats.]

(5) The permittee shall keep records of:

- (a) The date, time and initials of person performing the inspections required in condition I.B.1.b.(4);
- (b) A list of the items inspected; and
- (c) Any maintenance or repairs performed as a result of these inspections. [s. NR 439.04(1)(d), Wis. Adm. Code]

(6) The permittee shall keep records of:

- (a) The date, time and initials of person performing the inspections required in condition I.B.1.b.(5);
- (b) A list of the items inspected;
- (c) Any maintenance or repairs performed as a result of these inspections;
- (d) The results of the boiler efficiency optimization inspection; and
- (e) The measures taken to optimize the boiler.

[s. NR 439.04(1)(d), Wis. Adm. Code]

B. S11/B21 (Identified as Unit 1 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed February 1971.^{9, 10} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, boiler cleaning waste liquids and waste oil. Please see the additional requirements that relate to these alternate operating scenarios for the boiler in I.C., I.D., I.E. and I.F. of this permit.

Pollutant: 2. Visible Emissions

a. Limitations:

(1) Opacity may not exceed 40% or number 2 of the Ringlemann chart except when combustion equipment is being cleaned or a new fire started, emissions may exceed number 2 of the Ringlemann chart or 40% opacity but may not exceed number 4 of the Ringlemann chart or 80% opacity for 6 minutes in any one hour. Combustion equipment may not be cleaned nor a fire started more than 3 times per day. Emissions may exceed number 2 of the Ringlemann chart or 40% opacity for stated periods of time, as permitted by the department, for such purpose as an operating test, use of emergency or reserve equipment, or other good cause, provided no hazard or unsafe condition arises.

[s. NR 431.04(1) and by reference 431.05(1)&(2), Wis. Adm. Code]

b. Compliance Demonstration:

(1) The permittee shall calibrate, maintain and operate a continuous monitoring system which meets the performance specifications of condition I.B.2.b.(3) for the measurement of opacity from stack S11.¹¹

[s. NR 439.095(1)(f), Wis. Adm. Code]

(2) The permittee shall calibrate maintain and operate the continuous emission monitor required by condition I.B.2.b.(1) in accordance with the performance specifications in 40 CFR part 75, Appendices A to I and Performance Specification 1 in 40 CFR part 60, Appendix B. [ss. NR 439.09(1) and NR 439.095(6), Wis. Adm. Code]

(3) The continuous emission monitor required by condition I.B.2.b.(1) shall follow a quality control and quality assurance plan, as approved by the Department. [ss. NR 439.09(8) and NR 439.095(6), Wis. Adm. Code]

(4) The permittee shall prepare a Start-up and Shut-down Plan for the boiler. This plan shall define normal start-up and shut-down procedures, including the normal duration of start-up and shut-down periods.

[s. NR 407.09(4)(a), Wis. Adm. Code]

c. Test Methods, Recordkeeping, and Monitoring:

(1) Reference Test Method for Visible Emissions: Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance.

[s. NR 439.06(9)(a)1., Wis. Adm. Code]

(2) The continuous opacity monitor required by condition I.B.2.b.(1) shall complete one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

[s. NR 439.09(9)(a), Wis. Adm. Code]

(3) The permittee shall submit quarterly excess emission reports to the Department within 30 days following the end of each calendar quarter. [s. NR 439.09(10), Wis. Adm. Code]

(4) Excess emissions for opacity are, any 6 minute period during which the average opacity exceeds the limitation in condition I.B.2.a.(1). [s. NR 439.09(10)(b), Wis. Adm. Code]

(5) The excess emission reports required by condition I.B.2.c.(3) shall contain the information in condition I.T.2.a.

[s. NR 439.09(10)(a), Wis. Adm. Code]

9 Note: The requirements and emission limitations outlined in this section apply to the boiler at all times regardless of the fuel being fired.

10 This boiler is the subject of a December 14, 2009 NOV/FOV from EPA. Please see the Permit Shield section of this permit for further information on the implications of this enforcement action.

11 The permittee is exempt from the biennial opacity compliance tests required by s. NR 439.075(3)(b), Wis. Adm. Code, provided they operate a continuous opacity monitor that meets the performance specification requirements of s. NR 439.09, Wis. Adm. Code, pursuant to s. NR 439.075(4)(a)2., Wis. Adm. Code.

B. S11/B21 (Identified as Unit 1 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed February 1971.^{12, 13} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, boiler cleaning waste liquids and waste oil. Please see the additional requirements that relate to these alternate operating scenarios for the boiler in I.C., I.D., I.E. and I.F. of this permit.

Pollutant: 3. Sulfur Dioxide

a. Limitations:

(1) Emissions may not exceed 3.2 pounds per million Btu heat input. [s. NR 417.07(2)(a), Wis. Adm. Code]

(2) The permittee may not cause, allow, or permit the monthly SO₂ emissions from Boiler B21 (Unit 1) to exceed 1,274.5 tons per month, averaged over any twelve consecutive calendar months. [s. 285.65(7), Wis. Stats., Permit 10-KLF-055]

b. Compliance Demonstration:

(1) The permittee shall calibrate, maintain and operate a continuous monitoring system for the measurement of sulfur dioxide which meets the performance specifications of condition I.B.3.b.(2).¹⁴ [s. NR 439.095(1)(f), Wis. Adm. Code]

(2) The permittee shall calibrate maintain and operate the continuous emission monitor required by condition I.B.3.b.(1) in accordance with the performance specifications in 40 CFR part 75, Appendices A to I. [ss. NR 439.09(2) and NR 439.095(6), Wis. Adm. Code]

(3) The continuous emission monitor required by condition I.B.3.b.(1) shall follow a quality control and quality assurance plan, as approved by the Department. [ss. NR 439.09(8) and NR 439.095(6),

c. Test Methods, Recordkeeping, and Monitoring:

(1) Reference Test Method for Sulfur Dioxide Emissions: Whenever compliance emission testing is required, US EPA Method 6, 6A, 6B, or 6C shall be used to demonstrate compliance. [s. NR 439.06(6)(a), Wis. Adm. Code]

(2) The continuous sulfur dioxide monitor required by condition I.B.3.b.(1) shall perform sampling, analyzing and data recording as follows:

(a) Complete one cycle of sampling, analyzing and data recording for each successive 15-minute period.

(b) The values recorded shall be averaged hourly.

(c) Hourly averages shall be computed from a minimum of 4 data points equally spaced over each 1 hour period, except during periods when calibrations, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes. [s. NR 439.09(9)(b), Wis. Adm. Code and 40 CFR 75.10(1)]

(3) The permittee shall submit quarterly excess emission reports to the Department within 30 days following the end of each calendar quarter. [s. NR 439.09(10), Wis. Adm. Code]

(4) Excess emissions for sulfur dioxide are, any 24 hour rolling average during which the average sulfur dioxide emissions exceed the limitation in condition I.B.3.a.(1).¹⁵ [s. NR 439.09(10)(b), Wis. Adm. Code]

(5) For purposes of reporting exceedances on the basis of a 24-hour rolling

12 Note: The requirements and emission limitations outlined in this section apply to the boiler at all times regardless of the fuel being fired.

13 This boiler is the subject of a December 14, 2009 NOV/FOV from EPA. Please see the Permit Shield section of this permit for further information on the implications of this enforcement action.

14 The permittee is exempt from the biennial sulfur dioxide compliance tests required by ss. NR 439.075(2)(a)2., and (3)(b), Wis. Adm. Code, provided they operate a continuous sulfur dioxide emission monitor that meets the performance specification requirements of s. NR 439.09, Wis. Adm. Code, pursuant to s. NR 439.075(4)(a)2., Wis. Adm. Code. The permittee is exempt from the periodic fuel sampling and analysis requirements of s. NR 439.085(2), Wis. Adm. Code, provided they operate a continuous sulfur dioxide emission monitor that meets the performance specification requirements of s. NR 439.09, Wis. Adm. Code, pursuant to s. NR 439.085(1)(c), Wis. Adm. Code.

15 Excess emissions are defined as any 24 hour rolling average during which sulfur dioxide emissions exceed the limitation. The permittee may keep records in terms of hourly averages. If none of the hourly averages exceed the emission limitations, it can be assumed that the 24 hour rolling average emissions do not exceed the limitation.

B. S11/B21 (Identified as Unit 1 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed February 1971.^{12, 13} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, boiler cleaning waste liquids and waste oil. Please see the additional requirements that relate to these alternate operating scenarios for the boiler in I.C., I.D., I.E. and I.F. of this permit.	
Wis. Adm. Code] (4) The permittee shall determine at the end of each month the monthly SO ₂ emissions from Boiler B21 (Unit 1) in units of tons emitted per month, averaged over the 12 most recent consecutive calendar months. [s. NR 407.09(4)(a)3.b., Wis. Adm. Code (Permit 10-KLF -055)]	average, any hourly average may be included in only one 24 hour period. An exceedance shall be based on at least 18 and not more than 24 valid recordings of hourly average emission rates in any 24 hour period. [s. NR 439.09(10)(c), Wis. Adm. Code.] (6) The excess emission reports required by condition I.B.3.c.(3) shall contain the information in condition I.T.2.a. [s. NR 439.09(10)(a), Wis. Adm. Code] (7) The permittee shall record the following information for Boiler B21 (Unit 1): (a) The monthly emissions of SO ₂ , in units of tons per month. (b) The monthly emissions of SO ₂ , averaged over the 12 month recent calendar months, in units of tons per month. [ss. NR 407.09(4)(a)1. and NR 439.04(1)(d), Wis. Adm. Code (Permit 10-KLF-055)]
Pollutant: 4. Nitrogen Oxides	
a. Limitations: (1) The permittee shall calibrate, maintain and operate a continuous monitoring system for the measurement of nitrogen oxides which meets the performance specifications of condition I.B.4.b.(1). [s. NR 439.095(1)(f), Wis. Adm. Code]	
b. Compliance Demonstration: (1) The permittee shall calibrate maintain and operate the continuous emission monitor required by condition I.B.4.a.(1) in accordance with the performance specifications in 40 CFR part 75, Appendices A to I. [ss. NR 439.09(2) and NR 439.095(6), Wis. Adm. Code] (2) The continuous emission monitor required by condition I.B.4.a.(1) shall follow a quality control and quality assurance plan, as approved by the Department. [ss. NR 439.09(8) and NR 439.095(6), Wis. Adm. Code]	c. Test Methods, Recordkeeping, and Monitoring: (1) Reference Test Method for Nitrogen Oxide Emissions: Whenever compliance emission testing is required, US EPA Method 7, 7C, 7D, or 7E shall be used to demonstrate compliance. [s. NR 439.06(2), Wis. Adm. Code] (2) The continuous nitrogen oxides monitor required by condition I.B.4.a.(1) shall perform sampling, analyzing and data recording as follows: (a) Complete one cycle of sampling, analyzing and date recording for each successive 15-minute period. (b) The values recorded shall be averaged hourly. (c) Hourly averages shall be computed from a minimum of 4 data points equally spaced over each 1 hour period, except during periods when calibrations, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes. [s. NR 439.09(9)(b), Wis. Adm. Code and 40 CFR 75.10(1)]

B. S11/B21 (Identified as Unit 1 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed February 1971.^{16, 17} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, boiler cleaning waste liquids and waste oil. Please see the additional requirements that relate to these alternate operating scenarios for the boiler in I.C., I.D., I.E. and I.F. of this permit.

Pollutant: 5. Carbon Dioxide

a. Limitations:

(1) The permittee shall calibrate, maintain and operate a continuous monitoring system for the measurement of carbon dioxide which meets the performance specifications of condition I.B.5.b.(1). [s. NR 439.095(1)(f), Wis. Adm. Code]

b. Compliance Demonstration:

(1) The permittee shall calibrate maintain and operate the continuous emission monitor required by condition I.B.5.a.(1) in accordance with the performance specifications in 40 CFR part 75, Appendices A to I. [s. NR 439.095(6), Wis. Adm. Code]

(2) The continuous emission monitor required by condition I.B.5.a.(1) shall follow a quality control and quality assurance plan, as approved by the Department. [ss. NR 439.09(8) and NR 439.095(6), Wis. Adm. Code]

c. Test Methods, Recordkeeping, and Monitoring:

(1) The continuous carbon dioxide monitor required by condition I.B.5.a.(1) shall perform sampling, analyzing and data recording as follows:

(a) Complete one cycle of sampling, analyzing and date recording for each successive 15-minute period.

(b) The values recorded shall be average hourly.

(c) Hourly averages shall be computed from 4 data points equally spaced over each 1 hour period, except during periods when calibrations, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes. [s. NR 439.09(9)(b), Wis. Adm. Code]

(2) The continuous carbon dioxide monitor required by condition I.B.5.a.(1) shall be used to convert either sulfur dioxide or nitrogen oxide continuous emission monitoring data, or both, to units of the applicable emission limitations. [s. NR 439.095(5)(f), Wis. Adm. Code]

Condition 6: Stack Flow Rate

a. Limitations:

(1) The permittee shall calibrate, maintain and operate a continuous monitoring system for the measurement of the stack flow rate which meets the performance specifications of condition I.B.6.b.(1). [s. NR 439.095(1)(f), Wis. Adm. Code]

b. Compliance Demonstration:

c. Test Methods, Recordkeeping, and Monitoring:

16 Note: The requirements and emission limitations outlined in this section apply to the boiler at all times regardless of the fuel being fired.

17 This boiler is the subject of a December 14, 2009 NOV/FOV from EPA. Please see the Permit Shield section of this permit for further information on the implications of this enforcement action.

B. S11/B21 (Identified as Unit 1 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed February 1971.^{16, 17} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, boiler cleaning waste liquids and waste oil. Please see the additional requirements that relate to these alternate operating scenarios for the boiler in I.C., I.D., I.E. and I.F. of this permit.

(1) The permittee shall calibrate maintain and operate the continuous emission monitor required by condition I.B.6.a.(1) in accordance with the performance specifications in 40 CFR part 75, Appendices A to I.
[s. NR 439.095(6), Wis. Adm. Code]

(2) The continuous emission monitor required by condition I.B.6.a.(1) shall follow a quality control and quality assurance plan, as approved by the Department.
[ss. NR 439.09(8) and NR 439.095(6), Wis. Adm. Code]

(1) The continuous stack flow rate monitor required by condition I.B.6.a.(1) shall be used to convert either sulfur dioxide or nitrogen oxide continuous emission monitoring data, or both, to units of the applicable emission limitations.
[s. NR 439.095(5)(f), Wis. Adm. Code]

C. ALTERNATE OPERATING SCENARIO #1: S11/B21 - Coal Fired Boiler - Rated at 5885 mmBtu per hour
Additional Applicable Requirements While Firing Wood.

Pollutant: 1. Particulate Matter Emissions

a. Limitations:

(1) Wood fuel may not be burned in the boiler in greater than the percentage, in heat input, supplied by wood fuel during the most recent stack test that demonstrated compliance with the particulate matter emission limitation in condition I.B.1.a.(1).
[s. 285.63(1)(a), Wis. Stats.]

b. Compliance Demonstration:

(1) The following compliance emission tests while burning wood fuel or wood fuel in combination with other fuels, shall be conducted to demonstrate compliance with the particulate matter emission limit in conditions I.B.1.a.(1):

(a) This test shall be conducted within 90 days of initially using wood fuels in the boiler; AND

(b) Within 90 days of increasing the percentage of wood fuels used by more than 5 percent.

(c) This testing shall be conducted in accordance with condition I.T.3.a.(1).
[ss. NR 439.07 and NR 439.075(2)(a)1. and (3)(b), Wis. Adm. Code]

(2) To demonstrate compliance with condition I.C.1.a.(1), the permittee shall calculate the percentage of wood fuel heat input to the boiler using the following calculation:

$$P = \frac{HC_w \times Q_w}{\sum_{i=1}^n HC_i \times Q_i} \times 100, \text{ where:}$$

P is the daily average percentage (by heat input supplied to the boiler) of wood fuel used;

HC_w is the heat content of the wood fuel used during the day (Btu per pound);

Q_w is the amount of wood fuel used (expressed in pounds) during the day;

n is the total number of other fuels co-fired with the wood fuel during the day;

i represents each fuel fired during the day;

HC_i is the heat content of the wood fuel fired and each fuel co-fired with wood fuel during the day (expressed as Btu per pound for solid fuels, Btu per million cubic feet for gaseous fuels or Btu per thousand gallons for liquid fuels); and

Q_i is the amount of each fuel co-fired with wood during the day (pounds for solid fuels,

c. Test Methods, Recordkeeping, and Monitoring:

(1) Reference Test Method for Particulate Matter Emissions:
Whenever compliance emission testing is required, US EPA Method 5, including condensible backhalf emissions, shall be used to demonstrate compliance.
[s. NR 439.06(1), Wis. Adm. Code]

(2) The permittee shall keep the following records for the boiler on a monthly basis:

(a) The type of fuels used during each day that wood fuel is used;

(b) The heat content (expressed in Btu per pound for solid fuel, Btu per million cubic feet for gaseous fuel and Btu per thousand gallons for liquid fuel) of each fuel used during each day that wood fuel is used;

(c) The amount (expressed in pounds for solid fuels, million cubic feet for gaseous fuel or thousand gallons for liquid fuel) of

C. ALTERNATE OPERATING SCENARIO #1: S11/B21 - Coal Fired Boiler - Rated at 5885 mmBtu per hour Additional Applicable Requirements While Firing Wood.	
<p>million cubic feet for gaseous fuels or thousand gallons for liquid fuels).</p> <p>The permittee shall perform these calculations for each day within the preceding calendar month no later than the end of the fifteenth business day of the month. [s. NR 407.09(1)(c)1.a., Wis. Adm. Code]</p> <p>(3) The permittee shall use one of the following to determine the heat content of the fuels used:</p> <p>(a) certified supplier information;</p> <p>(b) representative data; or</p> <p>(c) the results of the sampling and analysis required by condition I.T.4.a.(11). If there is a discrepancy in these values, the results of the sampling and analysis required by condition I.T.4.a.(11) shall govern. [s. NR 407.09(4)(a), Wis. Adm. Code]</p>	<p>each fuel used during each day that wood fuel is used; and</p> <p>(d) The daily average percentage of heat input (P) that was supplied to the boiler from wood fuel for each day of the month (P, expressed in heat input to the boiler), as calculated using the equation in condition I.C.1.b.(2). [s. NR 439.04(1)(d), Wis. Adm. Code]</p>

C. ALTERNATE OPERATING SCENARIO #1: S11/B21 - Coal Fired Boiler - Rated at 5885 mmBtu per hour Additional Applicable Requirements While Firing Wood.	
Pollutant: 2. Chapter NR 445, Wis Adm, Code, Table 3, Hazardous Air Contaminants *	
a. Limitations:	
<p>(1) Good Combustion Technology for Wood:¹⁸</p> <p>(a) The permittee shall only burn wood fuels in the boiler. Wood fuels are defined as bark, sawdust, scrap lumber, wood chips and plain wood.</p> <p>(b) The permittee may not burn wood fuels in the boiler which are glued, treated, or coated in any way.</p> <p>(c) The permittee may burn a wood fuel containing up to 5 percent (by weight) of other materials in the boiler, provided written approval is obtained from the Department prior to burning the wood fuel. The permittee shall submit a written request to the Department for this approval.</p> <p>(d) The temperature of the exhaust gas exiting the furnace shall be maintained at a minimum of 1250 degrees Fahrenheit except during periods of normal start-up and shut-down as describe in the Start-up and Shut-down Plan required by condition I.B.2.b.(4).</p> <p>(e) The residence time of the boiler shall be a minimum of 1 second.</p> <p>(f) The 8-hour average carbon monoxide concentration of the exhaust gas exiting the boiler may not exceed a maximum of 500 ppm_{dv}, at 12% carbon dioxide (CO₂). [s. NR 445.07(5)(f), Wis. Adm. Code] *</p>	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
<p>(1) The following compliance emission tests shall be performed to demonstrate compliance with the carbon monoxide emission limitation in condition I.C.2.a.(1)(f):</p> <p>(a) The tests shall be conducted within 90 days of initially burning wood fuel in the boiler; AND</p> <p>(b) Within 90 days of increasing the percentage of wood fuels used by more than 5 percent.</p> <p>(c) This testing shall be conducted using the reference test method</p>	<p>(1) <u>Reference Test Method for Carbon Monoxide Emissions:</u></p> <p>(a) US EPA Method 10 or another test method approved by the Department in writing shall be used for initial compliance emission testing. [s. NR 439.06(4)(a), Wis. Adm. Code]</p> <p>(b) The permittee shall receive written approval from the Department for the test method used to monitor</p>

¹⁸ Section NR 445.07(5)(f), Wis. Adm. Code, exempts wood combustion units constructed or last modified prior to October 1, 1988 which operate with good combustion technology from the hazardous air contaminant emission limits of s. NR 445.07 Wis. Adm. Code. Good combustion technology means that technology which provides for a minimization of emissions of hazardous air contaminants listed in Table A, of s. NR 445.07, Wis. Adm. Code. The requirements outlined here were determined by the Department to be good combustion technology for wood.

¹⁹ The carbon monoxide concentration of the exhaust gas exiting the boilers shall be monitored by the method approved by the Department per condition I.C.2.c.(1)(b).

C. ALTERNATE OPERATING SCENARIO #1: S11/B21 - Coal Fired Boiler - Rated at 5885 mmBtu per hour
Additional Applicable Requirements While Firing Wood.

Pollutant: 2. Chapter NR 445, Wis Adm, Code, Table 3, Hazardous Air Contaminants *

outlined in condition I.C.2.c.(1)(a); and
(d) Shall be in accordance with condition I.T.3.a.(1).
[s. NR 439.07, Wis. Adm. Code] *

(2) To demonstrate compliance with condition I.C.2.a.(1)(a), (b) and (c), the permittee shall keep the records required by condition I.C.2.c.(2). [s. NR 407.09(1)(c)1.a., Wis. Adm. Code]*

(3) Prior to initially burning wood fuel in the boilers, the permittee shall submit the following information to the Department:
(a) The design residence time of the boiler; and
(b) The design temperature of the exhaust gas exiting the boiler.
[s. NR 407.09(1)(c)1.a., Wis. Adm. Code] *

(4) To demonstrate compliance with conditions I.C.2.a.(1)(d) and (f), the permittee shall continuously monitor the following parameters:
(a) The temperature of the exhaust gas exiting the boiler; and
(b) The carbon monoxide concentration¹⁹ of the exhaust gas exiting the boiler. [s. NR 407.09(1)(c)1.a., Wis. Adm. Code] *

(5) The permittee shall measure the parameters listed in condition I.C.2.b.(4) just upstream of where the exhaust gas enters the boiler tube section. [s. NR 407.09(1)(c)1.a., Wis. Adm. Code] *

(6) The permittee may submit an alternate compliance demonstration plan for the boiler to the Department. If the Department approves the alternate plan in writing, the permittee shall follow the plan to demonstrate compliance with the Good Combustion Technology requirements of condition I.C.2.a.(1) while firing wood in the boiler, in lieu of the compliance demonstration methods outlined in conditions I.C.2.b.(4) and (5).
[s. NR 407.09(4)(a)3.b., Wis. Adm. Code] *

the daily carbon monoxide concentration required by condition I.C.2.b.(4)(b) prior to burning wood in the boiler. The permittee shall submit a written request to the Department for this approval.

[s. NR 439.06(8), Wis. Adm. Code]*

(2) The permittee shall keep the following records for each shipment of wood fuel received:

(a) The name of the supplier that provided the shipment;
(b) The type of wood fuel received as defined in condition I.C.2.a.(1)(a); and
(c) The type and content (in weight percent) of any materials contained in the wood fuel that are not listed in condition I.C.2.a.(1)(a).

[s. NR 439.04(1)(d), Wis. Adm. Code]*

(3) The permittee shall continuously record:

(a) The temperature of the exhaust gas exiting the boiler; and
(b) The carbon monoxide concentration of the exhaust gas exiting the boiler.

[s. NR 439.04(1)(d), Wis. Adm. Code] *

(4) If the permittee received written approval from the Department for an alternate compliance demonstration plan submitted under condition I.C.2.b.(6), the permittee shall keep records of compliance demonstration variables according to the frequency outlined in the Department approved compliance demonstration plan.

[s. NR 439.04(1)(d), Wis. Adm. Code] *

C. ALTERNATE OPERATING SCENARIO #1: S11/B21 - Coal Fired Boiler - Rated at 5885 mmBtu per hour
Additional Applicable Requirements While Firing Wood.

Pollutant: 3. Visible Emissions

a. Limitations:

(1) Wood fuel may not be burned in the boiler in greater than the percentages, in heat input, supplied by wood fuel during the most recent stack test that demonstrated compliance with the visible emission limitation in condition I.C.2.a.(1).
[s. 285.63(1)(a), Wis. Stats.]

b. Compliance Demonstration:

(1) The following compliance emission tests while firing wood fuel or wood fuel in combination with other fuels, shall be conducted to demonstrate compliance with the visible emission limit in condition I.C.2.a.(1):
(a) These tests shall be conducted within 90 days of initially using wood fuel in the boiler; AND
(b) Within 90 days of increasing the percentage of wood fuel used by more than 5 percent.
(c) This testing shall be conducted in accordance with condition I.T.3.a.(1).
[s. NR 439.07, Wis. Adm. Code]

c. Test Methods, Recordkeeping, and Monitoring:

(1) Reference Test Method for Visible Emissions: Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance.
[s. NR 439.06(9)(a)1., Wis. Adm. Code]

(2) The recordkeeping requirements for particulate matter emissions outlined in condition I.C.1.c.(2) also serve as recordkeeping requirements for visible emissions.
[s. NR 439.04(1)(d), Wis. Adm. Code]

D. ALTERNATE OPERATING SCENARIO #2: S11/B21 - Coal Fired Boiler - Rated at 5885 mmBtu per hour
 Additional Applicable Requirements While Firing Petroleum Contaminated Soils and Absorbents.²⁰

Pollutant: 1. All Pollutants

a. Limitations:

- (1) Unless receiving prior written approval from the Department:
- (a) The permittee shall only incinerate soils contaminated with petroleum and lubricating products resulting from spills which occur on WPL properties after the issuance date of this permit;
 - (b) The permittee shall only incinerate adsorbents soaked with petroleum and lubricating products resulting from use at WPL facilities after the issuance date of this permit; and
 - (c) The amount of contaminated soils processed in one day shall not exceed 20 cubic yards.
- [s. 285.63(1)(a), Wis. Stats.]

(2) The permittee shall receive specific written approval from the Department prior to incinerating any contaminated soils or absorbents that do not meet the criteria in condition I.D.1.a.(1). [s. 285.63(1)(a), Wis. Stats.]

(3) The permittee may not incinerate soils or absorbents containing PCBs in the boiler. [s. 285.63(1)(a), Wis. Adm. Code]

b. Compliance Demonstration:

(1) To demonstrate compliance with condition I.D.1.a.(1) the permittee shall keep the records required by conditions I.D.1.c.(1) and (2).
 [s NR 407.09(4)(a), Wis. Adm. Code]

c. Test Methods, Recordkeeping, and Monitoring:

(1) The permittee shall keep the following records for all soils contaminated with petroleum and lubricating products that are incinerated in the boiler:

- (a) The name or identification of the WPL facility generating the contaminated soil;
- (b) The type of contamination;
- (c) The source of the contamination;
- (d) The volume of the soil processed in cubic yards;
- (e) The date that the soil is processed;
- (f) The rate at which the soil is fed to the boiler;
- (g) The total amount of contaminated soil processed each day in cubic yards; and
- (h) The name of the individual preparing the records.

[s. NR 439.04(1)(d), Wis. Adm. Code]

(2) The permittee shall keep the following records for the oil soaked absorbents that are incinerated in the boilers:

- (a) The name or identification of the WPL facility generating the oil soaked absorbents;
- (b) The type of oil and absorbents;
- (c) The approximate volume processed;
- (d) The date the oil soak absorbents are processed;
- (e) The name of the individual preparing the records.

[s. NR 439.04(1)(d), Wis. Adm. Code]

²⁰ The requirements outlined in section I.B. of this permit apply to the boiler at all times regardless of the type of fuel fired.

E. ALTERNATE OPERATING SCENARIO #3: S11/B21 - Coal Fired Boiler - Rated at 5885 mmBtu per hour
Additional Applicable Requirements While Firing Cleaning Waste Liquids from Boiler, Turbine and Other Related Equipment Cleaning.²¹

Pollutant: 1. Hazardous Air Pollutants *

a. Limitations:

(1) The permittee shall only combust boiler, turbine, and other related chemical cleaning waste liquids that have trace metal concentrations below the following concentrations²²:

- (a) Arsenic: 5.0 milligrams per liter
- (b) Barium: 100.0 milligrams per liter
- (c) Cadmium: 1.0 milligrams per liter
- (d) Chromium: 5.0 milligrams per liter
- (e) Lead: 5.0 milligrams per liter
- (f) Mercury: 0.2 milligrams per liter
- (g) Selenium: 1.0 milligrams per liter
- (h) Silver: 5.0 milligrams per liter

[s. NR 445.07(1)(a), Wis. Adm. Code] *

(2) The chemical cleaning waste liquids fired in the boiler shall only contain the cleaning solution and up to two full volume boiler rinses. [s. NR 445.07(1)(a), Wis. Adm. Code] *

b. Compliance Demonstration:

(1) To demonstrate compliance with condition I.E.1.a.(1), the permittee shall analyze all boiler chemical cleaning wastes that will be burned in the boilers, to determine the concentration of each of the compounds listed in condition I.E.1.a.(1). [s. NR 407.09(4)(a)1., Wis. Adm. Code] *

c. Test Methods, Recordkeeping, and Monitoring:

(1) The permittee shall use the test methods listed in s. NR 605.11, Wis. Adm. Code, or 40 CFR part 261, Appendix II to determine the concentration of the compounds listed in condition I.E.1.a.(1), in all boiler chemical cleaning waste liquids to be burned in the boilers.

[s. NR 439.06(8), Wis. Adm. Code] *

(2) The permittee shall keep records of:

- (a) The date that any boiler chemical cleaning waste liquids are burned in the boiler; and
- (b) The analysis required by condition I.E.1.b.(1) for all boiler chemical cleaning waste liquids burned in the boiler.

[s. NR 439.04(1)(d), Wis. Adm. Code] *

²¹ The requirements outlined in section I.B. of this permit apply to the boiler at all times regardless of the type of fuel fired.

²² These concentrations are the TCLP regulation action levels (s. NR 661.24, Wis. Adm. Code) that are used to determine if a material is a hazardous waste.

**F. ALTERNATE OPERATING SCENARIO #4: S11/B21 - Coal Fired Boiler - Rated at 5885 mmBtu per hour
Additional Applicable Requirements While Firing Waste Oils:²³****Pollutant: 1. Hazardous Air Pollutants *****a. Limitations:**

(1) The permittee shall only use waste oil generated at WPL facilities. [s. 285.65(7), Wis. Stats.]

(2) The concentrations (by weight) of the following substances contained in the waste oil may not exceed:

- (a) Arsenic: 5 parts per million
- (b) Cadmium: 2 parts per million
- (c) Chromium: 10 parts per million
- (d) Lead:²⁴ 100 parts per million
- (e) Total Halogens: 4000 parts per million

[s. 285.65(7), Wis. Stats.] *

(3) The waste oil used may not contain PCBs. [s. 285.63(1)(a), Wis. Stats.] *

(4) The permittee shall receive specific written approval from the Department prior to incinerating any waste oils that contain substances in excess of the concentrations listed in condition I.F.1.a.(2). The permittee's request to incinerate waste oil with higher concentrations shall include a recalculation of the monthly amount of waste oil that the permittee would be allowed to incinerate without exceeding the Table values in ch. NR 445, Wis. Adm. Code (see condition I.F.1.(a)(5)). The monthly waste oil usage limit shall be recalculated as follows:

$$Mo. Usage Limit = 290,120 \times \frac{conc. specified in I.F.1.a.(2)}{actual conc. of oil to be burned}$$

[ss. 285.63(1)(a) and 285.65(7), Wis. Stats.] *

(5) The permittee may not use more than a total of 290,120 gallons of waste oil in boilers B21 and B22 combined per month averaged over each 12 consecutive month period.²⁵ [s. 285.63(1)(a), Wis. Adm. Code]

b. Compliance Demonstration:

- (1) The permittee shall either:
- (a) Take a representative sample from each batch of waste oil prior to combustion in either boiler and analyze the sample for:
 - (i) Arsenic concentration
 - (ii) Cadmium concentration;
 - (iii) Chromium concentration;
 - (iv) Lead concentration;
 - (v) Total halogen concentration; and
 - (vi) PCBs.

c. Test Methods, Recordkeeping, and Monitoring:

- (1) Whenever fuel testing is required, the following test methods shall be used:
- (a) Sampling and analysis of liquid fossil fuels: ASTM method D4057-95 or D4177-95;
 - (b) Sulfur content: ASTM method D129-00, D1552-03, or D4294-03;
 - (c) Heating value: ASTM method D240-02;
 - (d) Hazardous constituents: Solid Waste methods in SW-846;
 - (e) PCBs: Solid Waste methods in SW-846;
 - (f) Chlorine: Solid Waste methods in SW-846.

²³ The requirements outlined in section I.B. of this permit apply to the boiler at all times regardless of the type of fuel fired.

²⁴ The maximum theoretical lead emissions are less than 1 tons per year. Therefore, periodic lead compliance testing is not required pursuant to s. NR 439.075(2)(b)4., Wis. Adm. Code.

²⁵ This condition is necessary to limit potential arsenic and cadmium from alternate fuel use at the facility to not more than the corresponding Table Values in ch. NR 445, Wis. Adm. Code. This condition also limits potential lead emissions to less than 1 ton per year, so that biennial lead stack testing is not required, pursuant to s. NR 439.075(2)(b)4., Wis. Adm. Code.

**F. ALTERNATE OPERATING SCENARIO #4: S11/B21 - Coal Fired Boiler - Rated at 5885 mmBtu per hour
Additional Applicable Requirements While Firing Waste Oils:²³**

Pollutant: 1. Hazardous Air Pollutants *

The analysis shall certify that the sample is representative of the oil used and that the test methods in condition I.F.1.c.(1) were used; OR

(b) Establish a waste stream characterization for the process that generated the waste oil, including:

- (i) the type of oil(s);
- (ii) the primary process generating the waste oil(s); and
- (iii) the characteristic concentrations of the compounds listed in I.E.1.b.(1)(a)

This characterization shall only be used for the specific process generating the waste oil(s) and shall only be valid provided the type of oil(s) or the nature of the process remains unchanged.

[s. NR 407.09(4)(a), Wis. Adm. Code] *

(2) The permittee shall calculate the amount of waste oil used in boilers B21 and B22 combined averaged over each 12 consecutive month period by dividing the total amount of waste oil used in boilers B21 and B22 combined during each 12 consecutive month period by 12. This calculation shall be performed within fifteen calendar days of the end of each month for the previous 12 consecutive month period.

[s. NR 407.09(4)(a)1., Wis. Adm. Code] *

[ss. NR 439.08(2) and NR 439.06(8), Wis. Adm. Code]

(2) The permittee shall keep records of either:

(a) The sample analysis results required by condition I.F.1.b.(1)(a) for each batch of waste oil burned at the facility; OR

(b) The process generating the waste oil, the type(s) of oil incinerated, and the waste stream characterization required by condition I.F.b.(1)(b).

[s. NR 439.04(1)(d), Wis. Adm. Code]

(3) The permittee shall keep records of:

(a) The total amount of waste oil used in boilers B21 and B22 combined, for each month, in gallons; and

(b) The amount of waste oil used in boilers B21 and B22 combined, averaged over each 12 consecutive month period as calculated in condition I.F.1.b.(2).

[s. NR 439.04(d), Wis. Adm. Code] *

G. S12/B22 (Identified as Unit 2 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed 1975.^{26, 27} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, and waste oil. Please see the requirements that relate to these alternate operating scenarios for the boiler in I.H., I.I. and I.J. of this permit.

Pollutant: 1. Particulate Matter Emissions

a. Limitations:

- (1) Emissions may not exceed 0.10 pounds per million Btu heat input. [s. NR 440.19(3)(a)1., Wis. Adm. Code]
- (2) The permittee shall only fire:
- (a) Coal, natural gas and #2 fuel oil as primary fuels in the boiler; and
 - (b) Wood fuel, petroleum contaminated soils and absorbents and waste oil as alternate fuels in the boiler. See section I.H. for additional requirements that apply while firing wood in the boiler. See section I.I. for additional requirements that apply while firing petroleum contaminated soil in the boiler. See section I.J. for additional requirements that apply while firing waste oil in the boiler. [ss. 285.65(3) and 285.63(1)(a), Wis. Stats.]

b. Compliance Demonstration:

- (1) The following compliance emission tests of the boiler shall be conducted to demonstrate compliance with the particulate matter emission limit in condition I.G.1.a.(1):
- (a) Test shall be conducted every 24 months as long as this permit remains valid;
 - (b) Each biennial test shall be performed within 90 days of the anniversary date of the issuance of this permit or within 90 days of an alternate date specified by the Department in writing;
 - (c) The permittee may request and the Department may approve a waiver from the required biennial testing provided the results of the most recently completed test demonstrate that particulate matter emissions are 50 percent or less of the applicable limitations in condition I.G.1.a.(1);
 - (d) This testing shall be conducted in accordance with condition I.T.3.a.(1). [ss. NR 439.07 and NR 439.075(2)(a)1. and (3)(b), Wis. Adm. Code]
- (2) The permittee shall operate an electrostatic precipitator control device on the boiler to control particulate matter emissions whenever the boiler is in operation with the exception of periods of normal start-up and shut-down as defined in the Start-up and Shut-down Plan required by condition I.G.2.b.(4). [s. 285.63(1)(a), Wis. Stats.]
- (3) The permittee shall monitor the following parameters for the electrostatic precipitator:

c. Test Methods, Recordkeeping, and Monitoring:

- (1) The permittee shall retain copies of the results of the tests required by condition I.G.1.b.(1) at the facility. [s. NR 439.04(1)(a), Wis. Adm. Code]
- (2) The permittee shall keep monthly records of:
- (a) The type of each fuel fired in the boiler; and
 - (b) The amount of each fuel fired in the boiler. [s. NR 439.04(1)(d), Wis. Adm. Code]
- (3) The permittee shall verify that the electrostatic precipitator control alarm responds to changes in the operating range for the parameters listed in condition I.G.1.b.(3) through the requirements of the Malfunction Prevention and Abatement Plan required by Part II of this permit. [s. NR 439.055(2)(b), Wis. Adm. Code]
- (4) The permittee shall keep records of:
- (a) The date, time and initials of person performing the inspections required in condition I.G.1.b.(4);
 - (b) A list of the items inspected; and
 - (c) Any maintenance or repairs performed as a result of these inspections. [s. NR 439.04(1)(d), Wis. Adm. Code]
- (5) The permittee shall keep records of:
- (a) The date, time and initials of person performing the inspections required in condition I.G.1.b.(5);
 - (b) A list of the items inspected;
 - (c) Any maintenance or repairs performed as a result of these inspections;
 - (d) The results of the boiler efficiency optimization inspection;

26 Note: The requirements and emission limitations outlined in this section apply to the boiler at all times regardless of the fuel being fired.

27 This boiler is the subject of a December 14, 2009 NOV/FOV from EPA. Please see the Permit Shield section of this permit for further information on the implications of this enforcement action.

G. S12/B22 (Identified as Unit 2 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed 1975.^{26, 27} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, and waste oil. Please see the requirements that relate to these alternate operating scenarios for the boiler in I.H., I.I. and I.J. of this permit.

Pollutant: 1. Particulate Matter Emissions

- (a) The primary voltage in volts;
 (b) The secondary voltage in volts;
 (c) The primary current in amps;
 (d) The secondary current in amps; and
 (e) The sparking rate, in sparks per minute.
[s. NR 439.055(1)(c), Wis. Adm. Code]

(4) The permittee shall perform internal inspections of the electrostatic precipitator not less than once every 18 months to ensure that the control equipment is operating properly. **[s. NR 407.09(4)(a)3.b., Wis. Adm. Code]**

(5) The permittee shall prepare and follow a plan for periodical internal inspections of the boiler and boiler efficiency optimization. This plan shall include the frequency of these inspections and the items to be inspected. **[s. NR 407.09(4)(a)3.b., Wis. Adm. Code]**

(6) The permittee shall operate a flue gas conditioning system to enhance the efficiency of the electrostatic precipitator, as approved by the Department in writing. **[s. 285.63(1)(a), Wis. Stats.]**

- and
 (e) The measures taken to optimize the boiler.
[s. NR 439.04(1)(d), Wis. Adm. Code]

(6) Reference Test Method for Particulate Matter Emissions:

(a) Whenever compliance emission testing is required one of the following shall be used to demonstrate compliance:

(i) U.S. EPA Method 5, including condensible backhalf emissions, shall be used for boilers without wet flue-gas-desulfurization (FGD) systems;

(ii) U.S. EPA Method 5B, including condensible backhalf emissions, shall be used for boilers with FGD systems; or

(iii) An appropriate alternate method listed in ss NR 440.19(7).

(b) The permittee shall determine compliance with the particulate matter standard using the method described in s. NR 440.19(7)(b), Wis. Adm. Code.

[ss. NR 439.06(1) and 440.19(7)(b)2., Wis. Adm. Code]

(7) Alternate Reference Test Methods and Procedures: The permittee may alternatively use the particulate matter methods and procedures described in s. NR 400.19(7)(d), Wis. Adm. Code.

[ss. NR 440.19(7)(d)1., 2., 3., 6., and 7., Wis. Adm. Code]

G. S12/B22 (Identified as Unit 2 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed 1975.^{28, 29} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, and waste oil. Please see the requirements that relate to these alternate operating scenarios for the boiler in I.H., I.I. and I.J. of this permit.

Pollutant: 2. Visible Emissions

a. Limitations:

(1) Opacity may not exceed 20% or number 1 of the Ringlemann chart except when combustion equipment is being cleaned or a new fire started, emissions may exceed number 1 of the Ringlemann chart or 20% opacity but may not exceed number 4 of the Ringlemann chart or 80% opacity for 6 minutes in any one hour. Combustion equipment may not be cleaned nor a fire started more than 3 times per day. Emissions may exceed number 1 of the Ringlemann chart or 20% opacity for stated periods of time, as permitted by the department, for such purpose as an operating test, use of emergency or reserve equipment, or other good cause, provided no hazard or unsafe condition arises.

[ss. NR 431.05(1)&(2), 440.19(3)(a)2. and 440.11(3), Wis. Adm. Code]

(2) At all times, including periods of startup, shutdown and malfunction, the permittee shall, to the extent practicable, maintain and operate boiler B22, including associated air pollution control equipment³⁰, in a manner consistent with good air pollution control practice for minimizing emissions. **[s. NR 440.11(4), Wis. Adm. Code]**

28 Note: The requirements and emission limitations outlined in this section apply to the boiler at all times regardless of the fuel being fired.

29 This boiler is the subject of a December 14, 2009 NOV/FOV from EPA. Please see the Permit Shield section of this permit for further information on the implications of this enforcement action.

30 The permittee has demonstrated that it is not practicable to operate the electrostatic precipitator during periods of normal start-up and shut-down as defined in the Start-up and Shut-down Plan required by condition I.G.1.b.(4),

G. S12/B22 (Identified as Unit 2 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed 1975.^{28, 29} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, and waste oil. Please see the requirements that relate to these alternate operating scenarios for the boiler in I.H., I.I. and I.J. of this permit.

Pollutant: 2. Visible Emissions

b. Compliance Demonstration:

(1) The permittee shall calibrate, maintain and operate a continuous monitoring system which meets the performance specifications of condition I.G.2.b.(3) for the measurement of opacity from stack S12.³¹ [ss. NR 439.095(1)(f) and NR 440.19(6)(a), Wis. Adm. Code]

(2) The permittee shall calibrate maintain and operate the continuous emission monitor required by condition I.G.2.b.(1) in accordance with the performance specifications in 40 CFR part 75, Appendices A to I and Performance Specification 1 in 40 CFR part 60, Appendix B. [ss. NR 439.09(1) and NR 439.095(6), Wis. Adm. Code]

(3) The continuous emission monitor required by condition I.G.2.b.(1) shall follow a quality control and quality assurance plan, as approved by the Department. [ss. NR 439.09(8) and NR 439.095(6), Wis. Adm. Code]

(4) The permittee shall prepare a Start-up and Shut-down Plan for the boiler. This plan shall define normal start-up and shut-down procedures, including the normal duration of start-up and shut-down periods. [s. NR 407.09(4)(a), Wis. Adm. Code]

(5) Zero and Span Calibrations: The permittee shall perform a calibration check on the zero and span drifts of the continuous emission monitoring system at least once daily. The calibration check shall be performed according to the procedures and methods in s. NR 440.13(4), Wis. Adm Code and s. NR 440.19(6)(c)3., Wis. Adm. Code. [ss. NR 440.13(4) and NR 440.19(6)(c)3., Wis. Adm. Code]

c. Test Methods, Recordkeeping, and Monitoring:

(1) Reference Test Method for Visible Emissions: Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance. The minimum total time of observations shall be 3-hours (30 6-minute averages). [ss. NR 439.06(9)(a)1. and NR 440.19(7)(b)3., Wis. Adm. Code]

(2) The continuous opacity monitor required by condition I.G.2.b.(1) shall complete one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. [s. NR 439.09(9)(a), Wis. Adm. Code]

(3) The permittee shall submit quarterly excess emission and monitoring system performance (MPS) reports to the Department within 30 days following the end of each calendar quarter. [ss. NR 439.09(10) and NR 440.19(6)(g), Wis. Adm. Code]

(4) Excess emissions for opacity are, any 6 minute period during which the average opacity exceeds the limitation in condition I.G.2.a.(1). [ss. NR 439.09(10)(b) and NR 440.19(6)(g)1., Wis. Adm. Code]

(5) The excess emission reports required by condition I.G.2.c.(3) shall contain the information in condition I.T.2.a. [s. NR 439.09(10)(a), Wis. Adm. Code]

(6) Data Format:

(a) The permittee shall reduce all data to 6-minute averages, calculated from a minimum of 36 data points equally spaced over each 6-minute period.

(b) Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments may not be included in the data averages.

(c) All excess emissions shall be converted into percent opacity rounded to the nearest one percent opacity.

[s. NR 440.13(8), Wis. Adm. Code]

because unburned hydrocarbons can collect on the plates and wires of the electrostatic precipitator and could combust, damaging the control equipment.

31 The permittee is exempt from the biennial opacity compliance tests required by s. NR 439.075(3)(b), Wis. Adm. Code, provided they operate a continuous opacity monitor that meets the performance specification requirements of s. NR 439.09, Wis. Adm. Code, pursuant to s. NR 439.075(4)(a)2., Wis. Adm. Code.

G. S12/B22 (Identified as Unit 2 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed 1975.^{32, 33} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, and waste oil. Please see the requirements that relate to these alternate operating scenarios for the boiler in I.H., I.I. and I.J. of this permit.

Pollutant: 3. Sulfur Dioxide

a. Limitations:

(1) Emissions may not exceed:

- (a) 0.80 pounds per million Btu heat input derived from liquid fossil fuel or liquid fossil fuel and wood residue³⁴.
- (b) 1.2 pounds per million Btu heat input derived from solid fossil fuel or solid fossil fuel and wood residue.
- (c) When different fossil fuels are burned simultaneously in any combination, the emission limitation (in pounds per million Btu) shall be determined by proration using the following formula:

$$PS_{SO_2} = (0.0023)[y(340) + z(520)]/[y + z]$$

where:

PS_{SO_2} is the prorated limitation for sulfur dioxide when burning different fuels simultaneously, in pounds per million Btu heat input derived from all fuels fired;

y is the percentage of total heat input derived from liquid fossil fuel;

z is the percentage of total heat input derived from solid fossil fuel.

[ss. NR 440.19(4)(a) through (c), Wis. Adm. Code]

b. Compliance Demonstration:

(1) Compliance with the emission limit in condition I.G.3.a.(1) shall be based on the total heat input from all fuels burned, including gaseous fuels. [s. NR 440.19(4)(c), Wis. Adm. Code]

(2) The permittee shall calibrate, maintain and operate a continuous monitoring system for the measurement of sulfur dioxide which meets the performance specifications of condition I.G.3.b.(3).³⁵ [ss. NR 439.095(1)(f) and 440.19(6)(a), Wis. Adm. Code]

(3) The permittee shall calibrate maintain and operate the continuous emission monitor required by condition I.G.3.b.(2) in accordance with the

c. Test Methods, Recordkeeping, and Monitoring:

(1) The continuous sulfur dioxide monitor required by condition I.G.3.b.(2) shall perform sampling, analyzing and data recording as follows:

- (a) Complete one cycle of sampling, analyzing and date recording for each successive 15-minute period.
- (b) The values recorded shall be averaged hourly.
- (c) Hourly averages shall be computed from a minimum of 4 data points equally spaced over each 1 hour period, except during periods when calibrations, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes. [s. NR 439.09(9)(b), Wis. Adm. Code and 40 CFR 75.10(1)]

(2) The permittee shall submit quarterly excess emission reports to the Department within 30 days following the end of each calendar quarter. [s. NR 439.09(10), Wis. Adm. Code]

32 Note: The requirements and emission limitations outlined in this section apply to the boiler at all times regardless of the fuel being fired.

33 This boiler is the subject of a December 14, 2009 NOV/FOV from EPA. Please see the Permit Shield section of this permit for further information on the implications of this enforcement action.

34 Wood residue means bark sawdust, slabs, chips, shavings mill trim and other wood products derived from wood processing and forest management operations.

35 The permittee is exempt from the biennial sulfur dioxide compliance tests required by ss. NR 439.075(2)(a)2., and (3)(b), Wis. Adm. Code, provided they operate a continuous sulfur dioxide emission monitor that meets the performance specification requirements of s. NR 439.09, Wis. Adm. Code, pursuant to s. NR 439.075(4)(a)2., Wis. Adm. Code.

The permittee is exempt from the periodic fuel sampling and analysis requirements of s. NR 439.085(2), Wis. Adm. Code, provided they operate a continuous sulfur dioxide emission monitor that meets the performance specification requirements of s. NR 439.09, Wis. Adm. Code, pursuant to s. NR 439.085(1)(c), Wis. Adm. Code.

G. S12/B22 (Identified as Unit 2 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed 1975.^{32, 33} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, and waste oil. Please see the requirements that relate to these alternate operating scenarios for the boiler in I.H., I.I. and I.J. of this permit.

Pollutant: 3. Sulfur Dioxide

performance specifications in 40 CFR part 75, Appendices A to I. [ss. NR 439.09(2) and NR 439.095(6), Wis. Adm. Code]

(4) The continuous emission monitor required by condition I.G.3.b.(2) shall follow a quality control and quality assurance plan, as approved by the Department. [ss. NR 439.09(8) and NR 439.095(6), Wis. Adm. Code]

(5) Conversion of Continuous Monitoring Data Into Units of Applicable Standard: Measurement of the sulfur dioxide concentration by continuous emission monitors shall be on a consistent basis (wet or dry). The conversion procedures in s. NR 440.19(6)(e) and (f), Wis. Adm. Code shall be used to covert continuous monitoring data into units of the applicable standards (lbs/million BTU) [ss. NR 440.19(6)(e) and (f), Wis. Adm. Code]

(6) Zero and Span Calibrations: The permittee shall perform a calibration check on the zero and span drifts of the continuous emission monitoring system at least once daily. The calibration check shall be performed according to the procedures and methods in s. NR 440.13(4), Wis. Adm. Code and s. NR 440.19(6)(c) 2., 3., 4 and 5., Wis. Adm. Code. If the performance requirements in 40 CFR Part 75 are more stringent, then the more restrictive requirements from 40 CFR Part 75 shall apply. [ss. NR 440.13(4)(a) and NR 440.19(6)(c)2., 3., 4 and 5, Wis. Adm. Code]

(3) Excess emissions for sulfur dioxide are, any 3-hour period during which the average emissions (arithmetic average of 3 contiguous one-hour periods) exceed the limitation in condition I.G.3.a.(1).³⁶ [s. NR 440.19(6)(g)2., Wis. Adm. Code]

(4) The excess emission reports required by condition I.G.3.c.(3) shall contain the information in condition I.T.2.a. [s. NR 439.09(10)(a), Wis. Adm. Code]

(5) Performance Evaluation Methods: Whenever performance evaluations of the sulfur dioxide continuous monitoring system are required, U.S. EPA Methods 6, 6A, 6B or 6C and 3, 3A or 3B or the alternate methods given in condition I.G.3.c.(7) shall be used. [s. NR 440.19(6)(c)1., Wis. Adm. Code]

(6) When combinations of fossil fuels or fossil fuels and wood residue are fired, the permittee, in order to compute the prorated sulfur dioxide limitation in condition I.G.3.a.(1)(c), shall determine the percentage (y or z) of the total heat input derived from each fuel as described in s. NR 440.19(7)(c), Wis. Adm. Code. [s. NR 440.19(7)(c), Wis. Adm. Code]

(7) Reference Test Method for Sulfur Dioxide Emissions:

(a) Whenever compliance emission testing is required, U.S. EPA Method 6 or an alternate method outlined in condition I.G.3.c.(8) shall be used to demonstrate compliance in accordance with the procedures described in s. NR 440.19(7)(b)4., Wis. Adm. Code.

(b) The emission rate (E) of SO₂ shall be computed for each run using the equation described in s. NR 440.19(7)(b)1., Wis. Adm. Code. [ss. NR 439.06(2)(a) and NR 440.19(7)(b)1. and 4., Wis. Adm. Code]

(8) Alternate Reference Test Methods and Procedures: The permittee may alternatively use the sulfur dioxide methods and procedures described in s. NR 440.19(7)(d). [ss. NR 440.19(7)(d)1., 3., 6., and 7., Wis. Adm. Code]

³⁶ Excess emission are defined as any 3-hour period during which sulfur dioxide emission exceed the limitation. The permittee may keep records in terms of hourly averages. If none of the hourly averages exceed the emission limitations, it can be assumed that the 3-hour rolling average emissions do not exceed the limitation.

G. S12/B22 (Identified as Unit 2 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed 1975.^{37, 38} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, and waste oil. Please see the requirements that relate to these alternate operating scenarios for the boiler in I.H., I.I. and I.J. of this permit.

Pollutant: 4. Nitrogen Oxides

a. Limitations:

- (1) Emissions, expressed as NO₂, may not exceed:
- (a) 0.30 pounds per million Btu heat input derived from liquid fossil fuel, liquid fossil fuel and wood residue, or gaseous fossil fuel and wood residue.
- (b) 0.70 pounds per million Btu heat input derived from solid fossil fuel or solid fossil fuel and wood residue (except lignite or a solid fuel containing 25%, by weight or more of coal refuse³⁹).
- (c) 0.60 pounds per million Btu heat input derived from lignite or lignite and wood residue.
- (d) Except as provided under (e), when different fossil fuels are burned simultaneously in any combination, the emission limitation (in pounds per million Btu) shall be determined by proration using the following formula:

$$PS_{NO_x} = (0.0023) \times \frac{w(260) + x(86) + y(130) + z(300)}{w + x + y + z}, \text{ where:}$$

PS_{NO_x} is the prorated standard for nitrogen oxides when burning different fuels simultaneously, in pounds per million Btu heat input derived from all fuels fired of from all fuels and wood residue fired;

w is the percentage of total heat input derived from lignite;

x is the percentage of total heat input derived from gaseous fossil fuel;

y is the percentage of total heat input derived from liquid fossil fuel;

z is the percentage of total heat input derived from solid fossil fuel (except lignite).

(f) When a fossil fuel containing at least 25%, by weight, of coal refuse is burned in combination with gaseous, liquid or other solid fossil fuel or wood residue, the emission limitations outlined above for nitrogen oxide do not apply.

[s. NR 440.19(5)(a), (b) and (c), Wis. Adm. Code]

b. Compliance Demonstration:

(1) The permittee shall calibrate, maintain and operate a continuous monitoring system for the measurement of nitrogen oxides which meets the performance specifications of condition I.G.4.b.(2). **[ss. NR 439.095(1)(f) and NR 440.19(6), Wis. Adm. Code]**

(2) The permittee shall calibrate maintain and operate the continuous emission monitor required by condition I.G.4.b.(1) in accordance with the performance specifications in 40 CFR part 75, Appendices A to I. **[ss. NR 439.09(2) and 439.095(6), Wis. Adm. Code]**

(3) The continuous emission monitor required by condition I.G.4.b.(1) shall follow a quality control and quality assurance plan, as approved by the Department. **[ss. NR 439.09(8) and 439.095(6), Wis. Adm. Code]**

c. Test Methods, Recordkeeping, and Monitoring:

(1) The continuous nitrogen oxides monitor required by condition I.G.4.a.(1) shall perform sampling, analyzing and data recording as follows:

(a) Complete one cycle of sampling, analyzing and date recording for each successive 15-minute period.

(b) The values recorded shall be average hourly.

(c) Hourly averages shall be computed from a minimum of 4 data points equally spaced over each 1 hour period, except during periods when calibrations, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes. **[s. NR 439.09(9)(b), Wis. Adm. Code and 40 CFR 75.10(1)]**

(2) The permittee shall submit quarterly excess emission reports to the Department within 30 days following the end of each calendar

37 Note: The requirements and emission limitations outlined in this section apply to the boiler at all times regardless of the fuel being fired.

38 This boiler is the subject of a December 14, 2009 NOV/FOV from EPA. Please see the Permit Shield section of this permit for further information on the implications of this enforcement action.

39 Coal refuse means waste-products of coal mining, cleaning and coal preparation operations (e.g. culm, gob, etc.) containing coal, matrix material, clay and other organic and inorganic material.

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Pollutant: 4. Nitrogen Oxides

(4) Conversion of Continuous Monitoring Data Into Units of Applicable Standard: Measurement of the nitrogen oxide concentration by continuous emission monitors shall be on a consistent basis (wet or dry). The conversion procedures in s. NR 440.19(6)(e) and (f), Wis. Adm. Code shall be used to covert continuous monitoring data into units of the applicable standards (lbs/million BTU)
[ss. NR 440.19(6)(e) and (f), Wis. Adm. Code]

(5) Zero and Span Calibrations: The permittee shall perform a calibration check on the zero and span drifts of the continuous emission monitoring system at least once daily. The calibration check shall be performed according to the procedures and methods in s. NR 440.13(4), Wis. Adm Code and s. NR 440.19(6)(c)3., 4 and 5., Wis. Adm. Code. If the performance requirements in 40 CFR Part 75 are more stringent, then the more restrictive requirements from 40 CFR Part 75 shall apply.
[ss. NR 440.13(4)(a) and NR 440.19(6)(c)3.4. and 5., Wis. Adm. Code]

quarter. [s. NR 439.09(10), Wis. Adm. Code]

(3) Excess emissions for nitrogen oxides are any 3-hour period during which the average emissions (arithmetic average of 3 contiguous one-hour periods) exceed the limitation in condition I.G.4.a.(1).⁴⁰ [s. NR 440.19(6)(g)3., Wis. Adm. Code]

(4) The excess emission reports required by condition I.G.4.c.(2) shall contain the information in condition I.T.2.a.
[s. NR 439.09(10)(a), Wis. Adm. Code]

(5) Performance Evaluation Methods: Whenever performance evaluations of the nitrogen oxide continuous monitoring system are required, U.S. EPA Methods 7, 7C, 7D or 7E and 3, 3A, 3B or the alternate methods given in condition I.G.4.c.(8) shall be used.
[s. NR 440.19(6)(c)1., Wis. Adm. Code]

(6) When combinations of fossil fuels or fossil fuels and wood residue are fired, the permittee, in order to compute the prorated nitrogen oxide limitation in condition I.G.4.a.(1)(d), shall determine the percentage (w, x, y or z) of the total heat input derived from each fuel as described in s. NR 440.19(7)(c), Wis. Adm. Code.
[s. NR 440.19(7)(c), Wis. Adm. Code]

(7) Reference Test Method for Nitrogen Oxide Emissions:
(a) Whenever compliance emission testing is required, U.S. EPA Method 7, 7C, 7D, 7E shall be used to demonstrate compliance in accordance with the procedures described in s. NR 440.19(7)(b)5., Wis. Adm. Code.
(b) The emission rate (E) of NO_x shall be computed for each run using the equation described in s. NR 440.19(7)(b)1., Wis. Adm. Code.
[ss. NR 439.06(6) and 440.19(7)(b)1. and 5., Wis. Adm. Code]

(8) Alternate Reference Test Methods and Procedures: The permittee may alternatively use the nitrogen oxide methods and procedures described in s. NR 440.19(7)(d), Wis. Adm. Code,
[ss. NR 440.19(7)(d)1., 5., 6., and 7., Wis. Adm. Code]

⁴⁰ Excess emission are defined as any 3-hour period during which nitrogen oxide emission exceed the limitation. The permittee may keep records in terms of hourly averages. If none of the hourly averages exceed the emission limitations, it can be assumed that the 3-hour rolling average emissions do not exceed the limitation.

G. S12/B22 (Identified as Unit 2 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed 1975.^{41, 42} The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, and waste oil. Please see the requirements that relate to these alternate operating scenarios for the boiler in I.H., I.I. and I.J. of this permit.

Pollutant: 5. Carbon Dioxide

a. Limitations:

(1) The permittee shall calibrate, maintain and operate a continuous monitoring system for the measurement of carbon dioxide which meets the performance specifications of condition I.G.5.b.(1). [s. NR 439.095(1)(f), Wis. Adm. Code]

b. Compliance Demonstration:

(1) The permittee shall calibrate maintain and operate the continuous emission monitor required by condition I.G.5.a.(1) in accordance with the performance specifications in 40 CFR part 75, Appendices A to I. [ss. NR 439.095(6) and NR 440.19(6)(a), Wis. Adm. Code]

(2) The continuous emission monitor required by condition I.G.5.a.(1) shall follow a quality control and quality assurance plan, as approved by the Department. [ss. NR 439.09(8) and NR 439.095(6), Wis. Adm. Code]

c. Test Methods, Recordkeeping, and Monitoring:

(1) The continuous carbon dioxide monitor required by condition I.G.5.a.(1) shall perform sampling, analyzing and data recording as follows:

- (a) Complete one cycle of sampling, analyzing and date recording for each successive 15-minute period.
- (b) The values recorded shall be average hourly.
- (c) Hourly averages shall be computed from 4 data points equally spaced over each 1 hour period, except during periods when calibrations, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes.

[s. NR 439.09(9)(b), Wis. Adm. Code and 40 CFR 75.10(1)]

(2) The continuous carbon dioxide monitor required by condition I.G.5.a.(1) shall be used to convert either sulfur dioxide or nitrogen oxide continuous emission monitoring data, or both, to units of the applicable emission limitations.

[s. NR 439.095(5)(f), Wis. Adm. Code]

41 Note: The requirements and emission limitations outlined in this section apply to the boiler at all times regardless of the fuel being fired.

42 This boiler is the subject of a December 14, 2009 NOV/FOV from EPA. Please see the Permit Shield section of this permit for further information on the implications of this enforcement action.

G. S12/B22 (Identified as Unit 2 for acid rain purposes) - Coal Fired Boiler - Rated at 5885 mmBtu per hour - Installed 1975.⁴³ The boiler also has the capacity to fire wood, petroleum contaminated soils and absorbents, and waste oil. Please see the requirements that relate to these alternate operating scenarios for the boiler in I.H., I.I. and I.J. of this permit.

Condition 6. Stack Flow Rate

a. Limitations:

(1) The permittee shall calibrate, maintain and operate a continuous monitoring system for the measurement of the stack flow rate which meets the performance specifications of condition I.G.6.b.(1). [s. NR 439.095(1)(f), Wis. Adm. Code.]

b. Compliance Demonstration:

- (1) The permittee shall calibrate maintain and operate the continuous emission monitor required by condition I.G.6.a.(1) in accordance with the performance specifications in 40 CFR part 75, Appendices A to I. [s. NR 439.095(6), Wis. Adm. Code]
- (2) The continuous emission monitor required by condition I.G.6.a.(1) shall follow a quality control and quality assurance plan, as approved by the Department. [ss. NR 439.09(8) and NR 439.095(6), Wis. Adm. Code]

c. Test Methods, Recordkeeping, and Monitoring:

- (1) The continuous stack flow rate monitor required by condition I.G.6.a.(1) shall be used to convert either sulfur dioxide or nitrogen oxide continuous emission monitoring data, or both, to units of the applicable emission limitations. [s. NR 439.095(5)(f), Wis. Adm. Code]

H. ALTERNATE OPERATING SCENARIO #1: S12/B22 - Coal Fired Boiler - Rated at 5885 mmBtu per hour Additional Applicable Requirements While Firing Wood:⁴⁴

Pollutant: 1. Particulate Matter Emissions

a. Limitations:

- (1) Wood fuel may not be burned in the boiler in greater than the percentage, in heat input, supplied by wood fuel during the most recent stack test that demonstrated compliance with the particulate matter emission limitation in condition I.G.1.a.(1). [s. 285.63(1)(a), Wis. Stats.]

b. Compliance Demonstration:

- (1) The following compliance emission tests while burning wood fuel or wood fuel in combination with other fuels, shall be conducted to demonstrate compliance with the particulate matter emission limit in conditions I.G.1.a.(1):
- (a) This test shall be conducted within 90 days of initially using wood fuels in the boiler; AND
- (b) Within 90 days of increasing the percentage of wood fuels used by more than 5 percent.
- (c) This testing shall be conducted in accordance with condition I.T.3.a.(1). [ss. NR 439.07 and NR 439.075(2)(a)1. and (3)(b), Wis. Adm. Code]
- (2) To demonstrate compliance with condition I.H.1.a.(1), the

c. Test Methods, Recordkeeping, and Monitoring:

- (1) Reference Test Method for Particulate Matter Emissions: Whenever compliance emission testing is required, US EPA Method 5, including condensable backhalf emissions, shall be used to demonstrate compliance. [s. NR 439.06(1), Wis. Adm. Code]
- (2) The permittee shall keep the following records for the boiler on a monthly basis:
- (a) The type of fuels used during each day that wood fuel is used;
- (b) The heat content (expressed in Btu per pound for solid fuel, Btu per million cubic feet for gaseous

43 Note: The requirements and emission limitations outlined in this section apply to the boiler at all times regardless of the fuel being fired.

44 The requirements outlined in section I.G. of this permit apply to the boiler at all times regardless of the type of fuel fired.

H. ALTERNATE OPERATING SCENARIO #1: S12/B22 - Coal Fired Boiler - Rated at 5885 mmBtu per hour
Additional Applicable Requirements While Firing Wood:⁴⁴

Pollutant: 1. Particulate Matter Emissions

permittee shall calculate the percentage of wood fuel heat input to the boiler using the following calculation:

$$P = \frac{HC_w \times Q_w}{\sum_{i=1}^n HC_i \times Q_i} \times 100, \text{ where:}$$

P is the daily average percentage (by heat input supplied to the boiler) of wood fuel used;

HC_w is the heat content of the wood fuel used during the day (expressed in Btu per pound);

Q_w is the amount of wood fuel used (expressed in lbs) during the day;

n is the total number of other fuels co-fired with the wood fuel during the day;

i represents each fuel fired during the day;

HC_i is the heat content of the wood fuel fired and each fuel co-fired with wood fuel during the day (expressed as Btu per pound for solid fuels, Btu per million cubic feet for gaseous fuels or Btu per thousand gallons for liquid fuels); and

Q_i is the amount of each fuel co-fired with wood during the day (expressed in pounds for solid fuels, million cubic feet for gaseous fuels or thousand gallons for liquid fuels).

The permittee shall perform these calculations for each day within the preceding calendar month no later than the end of the fifteenth business day of the month. [s. NR 407.09(1)(c)1.a., Wis. Adm. Code]

(3) The permittee shall use one of the following to determine the heat content of the fuels used:

- (a) certified supplier information;
- (b) representative data; or
- (c) the results of the sampling and analysis required by condition I.T.4.a.(4).

If there is a discrepancy in these values, the results of the sampling and analysis required by condition I.T.4.a.(4) shall govern.

[s. NR 407.09(4)(a), Wis. Adm. Code]

fuel and Btu per thousand gallons for liquid fuel) of each fuel used during each day that wood fuel is used;

(c) The amount (expressed in pounds for solid fuels, million cubic feet for gaseous fuel or thousand gallons for liquid fuel) of each fuel used during each day that wood fuel is used; and

(d) The daily average percentage of heat input (**P**) that was supplied to the boiler from wood fuel for each day of the month (**P**, expressed in heat input to the boiler), as calculated using the equation in condition I.H.1.b.(2).

[s. NR 439.04(1)(d), Wis. Adm. Code]

H. ALTERNATE OPERATING SCENARIO #1: S12/B22 - Coal Fired Boiler - Rated at 5885 mmBtu per hour
Additional Applicable Requirements While Firing Wood:⁴⁵

Pollutant: 2. Chapter NR 445, Wis Adm, Code, Table 3, Hazardous Air Contaminants *

a. Limitations:

(1) Good Combustion Technology for Wood:⁴⁶

- (a) The permittee shall only burn wood fuels in the boiler. Wood fuels are defined as bark, sawdust, scrap lumber, wood chips and plain wood.
- (b) The permittee may not burn wood fuels in the boiler which are glued, treated, or coated in any way.
- (c) The permittee may burn a wood fuel containing up to 5 percent (by weight) of other materials in the boiler, provided written approval is obtained from the Department prior to burning the wood fuel. The permittee shall submit a written request to the Department for this approval.
- (d) The temperature of the exhaust gas exiting the furnace shall be maintained at a minimum of 1250 degrees Fahrenheit except during normal start-up and shut-down as described in the Start-up and Shut-down Plan required by condition I.G.2.b.(4).
- (e) The residence time of the boiler shall be a minimum of 1 second.
- (f) The 8-hour average carbon monoxide concentration of the exhaust gas exiting the boiler may not exceed a maximum of 500 ppm_{dv}, at 12% carbon dioxide (CO₂).

[s. NR 445.07(5)(f), Wis. Adm. Code] *

b. Compliance Demonstration:

(1) The following compliance emission tests shall be performed to demonstrate compliance with the carbon monoxide emission limitation in condition I.H.2.a.(1)(f):

- (a) The tests shall be conducted within 90 days of initially burning wood fuel in the boiler; AND
- (b) Within 90 days of increasing the percentage of wood fuels used by more than 5 percent.
- (c) This testing shall be conducted using the reference test method outlined in condition I.H.2.c.(1)(a); and
- (d) Shall be in accordance with condition I.T.3.a.(1).

[s. NR 439.07, Wis. Adm. Code] *

(2) To demonstrate compliance with condition I.H.2.a.(1)(a), (b) and (c), the permittee shall keep the records required by condition I.H.2.c.(2). [s. NR 407.09(1)(c)1.a., Wis. Adm. Code] *

(3) Prior to initially burning wood fuel in the boilers, the permittee shall submit the following information to the Department:

- (a) The design residence time of the boiler; and
- (b) The design temperature of the exhaust gas exiting the boiler.

[s. NR 407.09(1)(c)1.a., Wis. Adm. Code] *

c. Test Methods, Recordkeeping, and Monitoring:

(1) Reference Test Method for Carbon Monoxide Emissions: *

- (a) US EPA Method 10 or another test method approved by the Department in writing shall be used for initial compliance emission testing. [s. NR 439.06(4)(a), Wis. Adm. Code]
- (b) The permittee shall receive written approval from the Department for the test method used to monitor the daily carbon monoxide concentration required by condition I.H.2.b.(4)(b) prior to burning wood in the boiler. The permittee shall submit a written request to the Department for this approval.

[s. NR 439.06(8), Wis. Adm. Code]

(2) The permittee shall keep the following records for each shipment of wood fuel received:

- (a) The name of the supplier that provided the shipment;
- (b) The type of wood fuel received as defined in condition I.H.2.a.(1)(a); and
- (c) The type and content (in weight percent) of any materials contained in the wood fuel that are not

⁴⁵ The requirements outlined in section I.G. of this permit apply to the boiler at all times regardless of the type of fuel fired.

⁴⁶ Section NR 445.07(5)(f) Wis. Adm. Code, exempts wood combustion units constructed or last modified prior to October 1, 1988 which operate with good combustion technology from the hazardous air contaminant emission limits of s. NR 445.07, Wis. Adm. Code. Good combustion technology means that technology which provides for a minimization of emissions of hazardous air contaminants listed in Table A, of s. NR 445.07, Wis. Adm. Code. The requirements outlined here were determined by the Department to be good combustion technology for wood.

H. ALTERNATE OPERATING SCENARIO #1: S12/B22 - Coal Fired Boiler - Rated at 5885 mmBtu per hour Additional Applicable Requirements While Firing Wood: ⁴⁵	
Pollutant: 2. Chapter NR 445, Wis Adm, Code, Table 3, Hazardous Air Contaminants *	
<p>(4) To demonstrate compliance with conditions I.H.2.a.(1)(d) and (f), the permittee shall continuously monitor the following parameters:</p> <p>(a) The temperature of the exhaust gas exiting the boiler; and</p> <p>(b) The carbon monoxide concentration⁴⁷ of the exhaust gas exiting the boiler. [s. NR 407.09(1)(c)1.a., Wis. Adm. Code] *</p> <p>(5) The permittee shall measure the parameters listed in condition I.H.2.b.(4) just upstream of where the exhaust gas enters the boiler tube section. [s. NR 407.09(1)(c)1.a., Wis. Adm. Code] *</p> <p>(6) The permittee may submit an alternate compliance demonstration plan for the boiler to the Department. If the Department approves the alternate plan in writing, the permittee shall follow the plan to demonstrate compliance with the Good Combustion Technology requirements of condition I.H.2.a.(1) while firing wood in the boiler, in lieu of the compliance demonstration methods outlined in conditions I.H.2.b.(4) and (5). [s. NR 407.09(4)(a)3.b., Wis. Adm. Code] *</p>	<p>listed in condition I.H.2.a.(1)(a). [s. NR 439.04(1)(d), Wis. Adm. Code] *</p> <p>(3) The permittee shall continuously record:</p> <p>(a) The temperature of the exhaust gas exiting the boiler; and</p> <p>(b) The carbon monoxide concentration of the exhaust gas exiting the boiler. [s. NR 439.04(1)(d), Wis. Adm. Code] *</p> <p>(4) If the permittee received written approval from the Department for an alternate compliance demonstration plan submitted under condition I.H.2.b.(6), the permittee shall keep records of compliance demonstration variables according to the frequency outlined in the Department approved compliance demonstration plan. [s. NR 439.04(1)(d), Wis. Adm. Code] *</p>
Pollutant: 3. Visible Emissions	
<p>a. Limitations:</p> <p>(1) Wood fuel may not be burned in the boiler in greater than the percentages, in heat input, supplied by wood fuel during the most recent stack test that demonstrated compliance with the visible emission limitation in condition I.G.2.a.(1). [s. 285.63(1)(a), Wis. Stats.]</p>	
<p>b. Compliance Demonstration:</p> <p>(1) The following compliance emission tests while firing wood fuel or wood fuel in combination with other fuels, shall be conducted to demonstrate compliance with the visible emission limit in condition I.G.2.a.(1):</p> <p>(a) These tests shall be conducted within 90 days of initially using wood fuel in the boiler; AND</p> <p>(b) Within 90 days of increasing the percentage of wood fuel used by more than 5 percent.</p> <p>(c) This testing shall be conducted in accordance with condition I.T.3.a.(1). [s. NR 439.07, Wis. Adm. Code]</p>	<p>c. Test Methods, Recordkeeping, and Monitoring:</p> <p>(1) Reference Test Method for Visible Emissions: Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code]</p> <p>(2) The recordkeeping requirements for particulate matter emissions outlined in condition I.H.1.c.(2) also serve as recordkeeping requirements for visible emissions. [s. NR 439.04(1)(d), Wis. Adm. Code]</p>

⁴⁷ The carbon monoxide concentration of the exhaust gas exiting the boilers shall be monitored by the method approved by the Department per condition I.H.2.c.(1)(b).

I. ALTERNATE OPERATING SCENARIO #2: S12/B22 - Coal Fired Boiler - Rated at 5885 mmBtu per hour Additional Applicable Requirements While Firing Petroleum Contaminated Soils and Absorbents:⁴⁸	
Pollutant: 1. All Pollutants	
<p>a. Limitations:</p> <p>(1) Unless receiving prior written approval from the Department:</p> <p>(a) The permittee shall only incinerate soils contaminated with petroleum and lubricating products resulting from spills which occur on WPL properties after the issuance date of this permit;</p> <p>(b) The permittee shall only incinerate adsorbents soaked with petroleum and lubricating products resulting from use at WPL facilities after the issuance date of this permit; and</p> <p>(c) The amount of contaminated soils processed in one day shall not exceed 20 cubic yards.</p> <p>[s. 285.63(1)(a), Wis. Stats.]</p> <p>(2) The permittee shall receive specific written approval from the Department prior to incinerating any contaminated soils or absorbents that do not meet the criteria in condition I.I.1.a.(1). [s. 285.63(1)(a), Wis. Stats.]</p> <p>(3) The permittee may not incinerate soils or absorbents containing PCBs in the boiler. [s. 285.63(1)(a), Wis. Adm. Code]</p>	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
<p>(1) To demonstrate compliance with condition I.I.1.a.(1) the permittee shall keep the records required by conditions I.I.1.c.(1) and (2). [s NR 407.09(4)(a), Wis. Adm. Code]</p>	<p>(1) The permittee shall keep the following records for all soils contaminated with petroleum and lubricating products that are incinerated in the boiler:</p> <p>(a) The name or identification of the WPL facility generating the contaminated soil;</p> <p>(b) The type of contamination;</p> <p>(c) The source of the contamination;</p> <p>(d) The volume of the soil processed in cubic yards;</p> <p>(e) The date that the soil is processed;</p> <p>(f) The rate at which the soil is fed to the boiler;</p> <p>(g) The total amount of contaminated soil processed each day in cubic yards; and</p> <p>(h) The name of the individual preparing the records.</p> <p>[s. NR 439.04(1)(d), Wis. Adm. Code]</p> <p>(2) The permittee shall keep the following records for the oil soaked absorbents that are incinerated in the boilers:</p> <p>(a) The name or identification of the WPL facility generating the oil soaked absorbents;</p> <p>(b) The type of oil and absorbents;</p> <p>(c) The approximate volume processed;</p> <p>(d) The date the oil soak absorbents are processed;</p> <p>(e) The name of the individual preparing the records.</p> <p>[s. NR 439.04(1)(d), Wis. Adm. Code]</p>

⁴⁸ The requirements outlined in section I.G. of this permit apply to the boiler at all times regardless of the type of fuel fired.

**J. ALTERNATE OPERATING SCENARIO #4: S12/B22 - Coal Fired Boiler - Rated at 5885 mmBtu per hour
Additional Applicable Requirements While Firing Waste Oils:⁴⁹****Pollutant: 1. Hazardous Air Pollutants *****a. Limitations:**

(1) The permittee shall only use waste oil generated at WPL facilities. [s. 285.65(7), Wis. Stats.]

(2) The concentrations (by weight) of the following substances contained in the waste oil may not exceed:

- (a) Arsenic: 5 parts per million
- (b) Cadmium: 2 parts per million
- (c) Chromium: 10 parts per million
- (d) Lead:⁵⁰ 100 parts per million
- (e) Total Halogens: 4000 parts per million

[s. 285.65(7), Wis. Stats.] *

(3) The waste oil used may not contain PCBs. [s. 285.63(1)(a), Wis. Stats.] *

(4) The permittee shall receive specific written approval from the Department prior to incinerating any waste oils that contain substances in excess of the concentrations listed in condition I.J.1.a.(2). The permittee's request to incinerate waste oil with higher concentrations shall include a recalculation of the monthly amount of waste oil that the permittee would be allowed to incinerate without exceeding the Table values in ch. NR 445, Wis. Adm. Code (see condition I.J.1.(a)(5)). The monthly waste oil usage limit shall be recalculated as follows:

$$Mo. Usage Limit = 290,120 \times \frac{conc'n specified in I.J.1.a.(2)}{actual conc'n of oil to be burned}$$

[ss. 285.63(1)(a) and 285.65(7), Wis. Stats.] *

(5) The permittee may not use more than a total of 290,120 gallons of waste oil in boilers B21 and B22 combined per month averaged over each 12 consecutive month period.⁵¹ [s. 285.63(1)(a), Wis. Adm. Code] *

b. Compliance Demonstration:

(1) The permittee shall either:

(a) Take a representative sample from each batch of waste oil prior to combustion in either boiler and analyze the sample for:

- (i) Arsenic concentration
- (ii) Cadmium concentration;
- (iii) Chromium concentration;
- (iv) Lead concentration;
- (v) Total halogen concentration; and
- (vi) PCBs.

The analysis shall certify that the sample is representative of

c. Test Methods, Recordkeeping, and Monitoring:

(1) Whenever fuel testing is required, the following test methods shall be used:

- (a) Sampling and analysis of liquid fossil fuels: ASTM method D4057-95 or D4177-95;
- (b) Sulfur content: ASTM method D129-00, D1552-03, or D4294-03;
- (c) Heating value: ASTM method D240-02;
- (d) Hazardous constituents: Solid Waste methods in SW-846;
- (e) PCBs: Solid Waste methods in SW-846;
- (f) Chlorine: Solid Waste methods in SW-846.

[ss. NR 439.08(2) and NR 439.06(8), Wis. Adm. Code]

⁴⁹ The requirements outlined in section I.G. of this permit apply to the boiler at all times regardless of the type of fuel fired.

⁵⁰ The maximum theoretical lead emissions are less than 1 tons per year. Therefore, periodic lead compliance testing is not required pursuant to s. NR 439.075(2)(b)4., Wis. Adm. Code.

⁵¹ This condition is necessary to limit potential arsenic and cadmium from alternate fuel use at the facility to not more than the corresponding Table Values in ch. NR 445, Wis. Adm. Code. This condition also limits potential lead emissions to less than 1 ton per year, so that biennial lead stack testing is not required, pursuant to s. NR 439.075(2)(b)4., Wis. Adm. Code.

**J. ALTERNATE OPERATING SCENARIO #4: S12/B22 - Coal Fired Boiler - Rated at 5885 mmBtu per hour
Additional Applicable Requirements While Firing Waste Oils:⁴⁹****Pollutant: 1. Hazardous Air Pollutants ***

the oil used and that the test methods in condition I.J.1.c.(1) were used; OR

(b) Establish a waste stream characterization for the process that generated the waste oil, including:

- (i) the type of oil(s);
- (ii) the primary process generating the waste oil(s); and
- (iii) the characteristic concentrations of the compounds listed in I.J.1.b.(1)(a)

This characterization shall only be used for the specific process generating the waste oil(s) and shall only be valid provided the type of oil(s) or the nature of the process remains unchanged.

[s. NR 407.09(4)(a), Wis. Adm. Code] *

(2) The permittee shall calculate the amount of waste oil used in boilers B21 and B22 combined averaged over each 12 consecutive month period by dividing the total amount of waste oil used in boilers B21 and B22 combined during each 12 consecutive month period by 12. This calculation shall be performed within fifteen calendar days of the end of each month for the previous 12 consecutive month period.

[s. NR 407.09(4)(a)1., Wis. Adm. Code] *

(2) The permittee shall keep records of either:

- (a) the sample analysis results required by condition I.J.1.b.(1)(a) for each batch of waste oil burned at the facility; OR
- (b) The process generating the waste oil, the type(s) of oil incinerated, and the waste stream characterization required by condition I.J.b.(1)(b).

[s. NR 439.04(1)(d), Wis. Adm. Code]

(3) The permittee shall keep records of:

- (a) The total amount of waste oil used in boilers B21 and B22 combined, for each month, in gallons; and
- (b) The amount of waste oil used in boilers B21 and B22 combined, averaged over each 12 consecutive month period as calculated in condition I.J.1.b.(2).

[s. NR 439.04(d), Wis. Adm. Code] *

**K. S01/P01 - Dry Flyash Handling System Unit 1 - Installed 1982 (construction permit MIA-10-KAM-82-11-084)
S02/P02 - Dry Flyash Handling System Unit 2 - Installed 1975****Pollutant: 1. Particulate Matter****a. Limitations:**

- (1) Emission may not exceed 0.20 pounds per 1000 pounds exhaust gas.⁵² [ss. NR 415.05(1)(m) and (2), Wis. Adm. Code]

b. Compliance Demonstration:

(1) The permittee shall operate a baghouse to control emissions whenever each system is operated.

[s. 285.63(1)(a), Wis. Stats.]

(2) The permittee shall perform daily visible inspections of each exhaust stack to detect visible emissions.

[s. NR 407.09(4)(a), Wis. Adm. Code]

(3) The permittee shall monitor the vacuum created by each fan which exhausts emissions from each baghouse. If vacuum is lost within the baghouse an alarm system shall

c. Test Methods, Recordkeeping, and Monitoring:

(1) Reference Test Method for Particulate Matter Emissions: Whenever compliance emission testing is required, US EPA Method 5, including condensible backhalf emissions, shall be used to demonstrate compliance.

[s. NR 439.06(1), Wis. Adm. Code]

(2) The permittee shall keep daily records of the visual inspections of each exhaust stack required by condition I.K.1.b.(2) that include:

- (a) The date and time of the inspection;
- (b) The initials of the individual performing the inspection;

⁵² The emission limit of 0.20 pounds per 1000 pounds gas from s. NR 415.05(1)(m), Wis. Adm. Code is more restrictive than the emission limit calculated from the process weight rate equation of s. NR 415.05(2), Wis. Adm. Code.

K. S01/P01 - Dry Flyash Handling System Unit 1 - Installed 1982 (construction permit MIA-10-KAM-82-11-084) S02/P02 - Dry Flyash Handling System Unit 2 - Installed 1975	
signal the operator and corrective action shall be initiated. [s. NR 407.09(4)(a), Wis. Adm. Code]	(c) The results of the inspection; (d) A description of any maintenance or repairs performed as a result of the inspection. [s. NR 439.04(1)(d), Wis. Adm. Code]
Pollutant: 2. Visible Emissions	
a. Limitations:	
(1) 20 percent opacity. [s. NR 431.05, Wis. Adm. Code]	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
(1) The compliance demonstration methods for particulate matter emissions outlined in conditions I.K.1.b. (1) through (3) are also required to demonstrate compliance with the visible emission limitation in condition I.K.2.a.(1). [s. NR 407.09(4)(a), Wis. Adm. Code]	(1) <u>Reference Test Method for Visible Emissions:</u> Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The records required for particulate matter in condition I.K.1.c.(2) is also required for visible emissions. [s. NR 439.04(1)(d), Wis. Adm. Code]

L. S07/P07 - Unit 2 Coal Reclaim System P07 - Installed 1981 (construction permit MIN-04-80-11-138)	
Pollutant: 1. Particulate Matter	
a. Limitations:	
(1) Emission may not exceed 0.20 pounds per 1000 pounds exhaust gas. ⁵³ [ss. NR 415.05(1)(m) and (2), Wis. Adm. Code]	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
(1) The permittee shall operate a baghouse to control emissions whenever each system is operated. [s. 285.63(1)(a), Wis. Stats.] (2) The permittee shall perform daily visible inspections of each exhaust stack to detect visible emissions. [s. NR 407.09(4)(a), Wis. Adm. Code] (3) The permittee shall monitor the vacuum created by each fan which exhausts emissions from each baghouse. If vacuum is lost within the baghouse an alarm system shall signal the operator and corrective action shall be initiated. [s. NR 407.09(4)(a), Wis. Adm. Code]	(1) <u>Reference Test Method for Particulate Matter Emissions:</u> Whenever compliance emission testing is required, US EPA Method 5, including condensable backhalf emissions, shall be used to demonstrate compliance. [s. NR 439.06(1), Wis. Adm. Code] (2) The permittee shall keep daily records of the visual inspections of each exhaust stack required by condition I.L.1.b.(2) that include: (a) The date and time of the inspection; (b) The initials of the individual performing the inspection; (c) The results of the inspection; (d) A description of any maintenance or repairs performed as a result of the inspection. [s. NR 439.04(1)(d), Wis. Adm. Code]

⁵³ The emission limit of 0.20 pounds per 1000 pounds gas from s. NR 415.05(1)(m), Wis. Adm. Code is more restrictive than the emission limit calculated from the process weight rate equation of s. NR 415.05(2), Wis. Adm. Code.

L. S07/P07 - Unit 2 Coal Reclaim System P07 - Installed 1981 (construction permit MIN-04-80-11-138)	
Pollutant: 2. Visible Emissions	
a. Limitations: (1) 20 percent opacity. [s. NR 431.05, Wis. Adm. Code]	
b. Compliance Demonstration: (1) The compliance demonstration methods for particulate matter emissions outlined in conditions I.L.1.b. (1) through (3) are also required to demonstrate compliance with the visible emission limitation in condition I.L.2.a.(1). [s. NR 407.09(4)(a), Wis. Adm. Code]	c. Test Methods, Recordkeeping, and Monitoring: (1) <u>Reference Test Method for Visible Emissions:</u> Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The records required for particulate matter in condition I.L.1.c.(2) is also required for visible emissions. [s. NR 439.04(1)(d), Wis. Adm. Code]

M. S03/P03 - Coal Train Car Dumping System - Installed 1971	
Pollutant: 1. Particulate Matter	
a. Limitations: (1) Emission may not exceed 0.13 pounds per 1000 pounds exhaust gas. ⁵⁴ [ss. NR 415.05(1)(o), Wis. Adm. Code and 285.63(1)(b), Wis. Stats.]	
b. Compliance Demonstration: (1) The permittee shall operate a baghouse to control emissions whenever the system is operated. [s. 285.63(1)(a), Wis. Stats.] (2) The permittee shall perform daily visible inspections of the exhaust stack to detect visible emissions. [s. NR 407.09(4)(a), Wis. Adm. Code] (3) The permittee shall monitor the vacuum created by each fan which exhausts emissions from each baghouse. If vacuum is lost within the baghouse an alarm system shall signal the operator and corrective action shall be initiated. [s. NR 407.09(4)(a), Wis. Adm. Code]	c. Test Methods, Recordkeeping, and Monitoring: (1) <u>Reference Test Method for Particulate Matter Emissions:</u> Whenever compliance emission testing is required, US EPA Method 5, including condensible backhalf emissions, shall be used to demonstrate compliance. [s. NR 439.06(1), Wis. Adm. Code] (2) The permittee shall keep daily records of the visual inspections of the exhaust stack required by condition I.M.1.b.(2) that include: (a) The date and time of the inspection; (b) The initials of the individual performing the inspection; (c) The results of the inspection; (d) A description of any maintenance or repairs performed as a result of the inspection. [s. NR 439.04(1)(d), Wis. Adm. Code]

⁵⁴ This more restrictive limitation is necessary to ensure that national ambient air quality standards for particulate matter are attained and maintained.

M. S03/P03 - Coal Train Car Dumping System - Installed 1971	
Pollutant: 2. Visible Emissions	
a. Limitations: (1) 40 percent opacity. [s. NR 431.04(1), Wis. Adm. Code]	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
(1) The compliance demonstration methods for particulate matter emissions outlined in conditions I.M.1.b. (1) through (3) are also required to demonstrate compliance with the visible emission limitation in condition I.M.2.a.(1). [s. NR 407.09(4)(a), Wis. Adm. Code]	(1) <u>Reference Test Method for Visible Emissions</u> : Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The records required for particulate matter in condition I.M.1.c.(2) is also required for visible emissions. [s. NR 439.04(1)(d), Wis. Adm. Code]

N. S06/P06 - Coal Crusher House - Installed 1971	
Pollutant: 1. Particulate Matter	
a. Limitations:	
(1) Emission may not exceed 0.06 pounds per 1000 pounds exhaust gas. ⁵⁵ [ss. NR 415.05(1)(m), Wis. Adm. Code 285.63(1)(b), Wis. Stats.]	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
(1) The permittee shall operate a baghouse to control emissions whenever the system is operated. [s. 285.63(1)(a), Wis. Stats.]	(1) <u>Reference Test Method for Particulate Matter Emissions:</u> Whenever compliance emission testing is required, US EPA Method 5, including condensible backhalf emissions, shall be used to demonstrate compliance. [s. NR 439.06(1), Wis. Adm. Code]
(2) The permittee shall perform daily visible inspections of the exhaust stack to detect visible emissions. [s. NR 407.09(4)(a), Wis. Adm. Code]	(2) The permittee shall keep daily records of the visual inspections of each exhaust stack required by condition I.N.1.b.(2) that include:
(3) The permittee shall monitor the vacuum created by each fan which exhausts emissions from each baghouse. If vacuum is lost within the baghouse an alarm system shall signal the operator and corrective action shall be initiated. [s. NR 407.09(4)(a), Wis. Adm. Code]	(a) The date and time of the inspection; (b) The initials of the individual performing the inspection; (c) The results of the inspection; (d) A description of any maintenance or repairs performed as a result of the inspection. [s. NR 439.04(1)(d), Wis. Adm. Code]
Pollutant: 2. Visible Emissions	
a. Limitations:	
(1) 40 percent opacity. [s. NR 431.04(1), Wis. Adm. Code]	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
(1) The compliance demonstration methods for particulate matter emissions outlined in conditions I.N.1.b. (1) through (3) are also required to demonstrate compliance with the visible emission limitation in condition I.N.2.a.(1). [s. NR 407.09(4)(a), Wis. Adm. Code]	(1) <u>Reference Test Method for Visible Emissions:</u> Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code]
	(2) The records required for particulate matter in condition I.N.1.c.(2) is also required for visible emissions. [s. NR 439.04(1)(d), Wis. Adm. Code]

⁵⁵ This more restrictive limitation is necessary to ensure the national ambient air quality standards for particulate matter are attained and maintained.

O. S20/P20 - Coal Conveying System Tripper Room Dust Collection System - Installed 1971**Pollutant: 1. Particulate Matter****a. Limitations:**

(1) Emission may not exceed 0.20 pounds per 1000 pounds exhaust gas. [s. NR 415.05(1)(m), Wis. Adm. Code]

b. Compliance Demonstration:

- (1) The permittee shall operate a baghouse to control emissions whenever the system is operated. [s. 285.63(1)(a), Wis. Stats.]
- (2) The permittee shall perform daily visible inspections of the exhaust stack to detect visible emissions. [s. NR 407.09(4)(a), Wis. Adm. Code]
- (3) The permittee shall monitor the vacuum created by each fan which exhausts emissions from each baghouse. If vacuum is lost within the baghouse an alarm system shall signal the operator and corrective action shall be initiated. [s. NR 407.09(4)(a), Wis. Adm. Code]

c. Test Methods, Recordkeeping, and Monitoring:

- (1) Reference Test Method for Particulate Matter Emissions: Whenever compliance emission testing is required, US EPA Method 5, including condensible backhalf emissions, shall be used to demonstrate compliance. [s. NR 439.06(1), Wis. Adm. Code]
- (2) The permittee shall keep daily records of the visual inspections of each exhaust stack required by condition I.O.1.b.(2) that include:
- (a) The date and time of the inspection;
 - (b) The initials of the individual performing the inspection;
 - (c) The results of the inspection;
 - (d) A description of any maintenance or repairs performed as a result of the inspection.
- [s. NR 439.04(1)(d), Wis. Adm. Code]

Pollutant: 2. Visible Emissions**a. Limitations:**

(1) 40 percent opacity. [s. NR 431.04(1), Wis. Adm. Code]

b. Compliance Demonstration:

- (1) The compliance demonstration methods for particulate matter emissions outlined in conditions I.O.1.b. (1) through (3) are also required to demonstrate compliance with the visible emission limitation in condition I.O.2.a.(1). [s. NR 407.09(4)(a), Wis. Adm. Code]

c. Test Methods, Recordkeeping, and Monitoring:

- (1) Reference Test Method for Visible Emissions: Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code]
- (2) The records required for particulate matter in condition I.O.1.c.(2) is also required for visible emissions. [s. NR 439.04(1)(d), Wis. Adm. Code]

P. S21/P21 - Coal Pile Handling Operations - Installed 1971	
Pollutant: 1. Particulate Matter - Fugitive Dust	
a. Limitations: (1) The permittee may not cause, allow or permit any materials to be handled, transported or stored without taking precautions to prevent particulate matter from becoming airborne. Nor may the permittee allow a structure, a parking lot, or a road to be used, constructed, altered, repaired, sand blasted, or demolished without taking such precautions. [s. NR 415.04, Wis. Adm. Code]	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
(1) The permittee shall apply water/chemical dust suppressants from sprays and trucks as needed to prevent airborne particulate matter. [s. NR 415.04(1), Wis. Adm. Code]	(1) The permittee shall keep monthly records of the amount of water/chemical dust suppressants used in gallons. [s. NR 439.04(1)(d), Wis. Adm. Code]
Pollutant: 2. Visible Emissions	
a. Limitations: (1) 40 percent opacity. [s. NR 431.04(1), Wis. Adm. Code]	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
(1) The compliance demonstration method for particulate matter outlined in condition I.P.1.b.(1) is also required as a compliance demonstration method for visible emissions. [s. NR 415.04(1), Wis. Adm. Code]	(1) <u>Reference Test Method for Visible Emissions:</u> Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The record keeping requirement for particulate matter emissions in condition I.P.1.c.(1) shall also serve as the record keeping requirement for visible emissions. [s. NR 439.04(1)(d), Wis. Adm. Code]

Q. S23, P23 - 2000 kW Diesel Emergency Generator - Installed October 2005	
Pollutant: 1. General Prohibition	
a. Limitations:	
(1) The generator shall be operated for no more than 200 hours per year. [ss. 285.65(7) and 285.63(1)(a), Wis. Stats.]	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
(1) The permittee shall only fire diesel fuel in the emergency generator. [ss. 285.65(3) and 285.63(1)(a), Wis. Stats. and ss. NR 407.09(4)(a)3.b. and 439.04(1)(d)., Wis. Adm. Code]	(1) The permittee shall retain on site, plans and specifications that indicate each generators fuel usage design capabilities. [s. NR 439.04(1)(d), Wis. Adm. Code] (2) When the generators are operating, the permittee shall maintain records of hours of operation per year to ensure the generators never exceed 200 hours of operation per year. [ss. 285.65(3) and 285.63(1)(a), Wis. Stats. and ss. NR 407.09(4)(a)3.b. and 439.04(1)(d)., Wis. Adm. Code]
Pollutant: 2. Particulate Matter	
a. Limitations:	
(1) The permittee shall limit particulate matter emissions to no more than 0.50 pounds per mmBTU heat input. [s. NR 485.055, Wis. Adm. Code]	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
(1) The permittee shall only fire diesel fuel in the emergency generator. [ss. 285.65 and 285.63(1)(a), Wis. Stats. and ss. NR 407.09(4)(a)3.b. and 439.04(1)(d)., Wis. Adm. Code]	(1) <u>Reference Test Method for Particulate Matter Emissions:</u> Whenever compliance emission testing is required, US EPA Method 5, including condensible back half emissions, shall be used to demonstrate compliance. [s. NR 439.06(1), Wis. Adm. Code] (2) The permittee shall retain on site, plans and specifications of the generator. [s. NR 439.04(1)(d), Wis. Adm. Code]
Pollutant: 3. Visible Emissions	
a. Limitations:	
(1) The permittee may not cause or allow emissions of a shade or density greater than number 2 on the Ringelmann chart or 40% opacity for longer than an aggregate time of five minutes in any thirty minute period. [s. NR 485.05(4), Wis. Adm. Code]	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
(1) The permittee shall only fire diesel fuel in this generator. ⁵⁶ [ss. 285.65 and 285.63(1)(a), Wis. Stats. and ss. NR 407.09(4)(a)3.b. and 439.04(1)(d)., Wis. Adm. Code]	(1) <u>Reference Test Method for Visible Emissions:</u> Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The permittee shall retain on site, plans and specifications of the generator. [s. NR 439.04(1)(d), Wis. Adm. Code]

⁵⁶ Diesel fuel is a clean burning fuel. It is not expected that the visible emission limitation of 40% opacity would be exceeded while firing this fuel. Therefore restricting the type of fuel used is adequate to ensure compliance with the emission limitation.

Q. S23, P23 - 2000 kW Diesel Emergency Generator - Installed October 2005**Pollutant: 4: Nitrogen Oxides****a. Limitations:**

(1) No person may cause, allow or permit nitrogen oxides or nitrogen compounds to be emitted to the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. [s. NR 428.03, Wis. Adm. Code]

b. Compliance Demonstration:

(1) The compliance demonstration requirement for general limitations, conditions I.Q.1.b.(1), is deemed sufficient for demonstrating compliance with the nitrogen oxide limitation.

c. Test Methods, Recordkeeping, and Monitoring:

(1) Whenever emission testing of nitrogen oxide emissions is required, the permittee shall use U.S. EPA Method 7, 7A, 7B, 7C, 7D or 7E. [s. NR 439.06(6)(a), Wis. Adm. Code]

R. Stack S22, Process P22 Cooling Towers**Pollutant 1: Particulate Matter (PM / PM₁₀) Emissions****a. Limitations:**

(1) 0.66 pounds per hour PM / PM₁₀ from each cooling tower cell. (4.62 lbs/hr aggregate per tower)
[s. 285.65(3), Wis. Stats.]

(2) The cooling tower drift rate may not exceed 0.01 wt% of the circulating water flow rate.
[s. 285.65(3), Wis. Stats.]

(3) Stack Parameters These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed.

(a) The stack height of each tower cell shall be at least 55.76 feet above ground level.

(b) The inside diameter of each cell at the outlet may not exceed 30 ft.

(c) The stack may not be equipped with a rainhat or other device which impedes the upward flow of the exhaust gases.
[s. 285.65(3), Stats.]

b. Compliance Demonstration:

(1) The Total Dissolved Solids (TDS) concentration in the cooling water may not exceed 1,000 parts per million (ppmw), or 1,000 mg/l. This information, the 10,374 gallon per MWh tower design flow rate and the 0.010% maximum circulation drift rate, was the basis of the calculated potential to emit.

[s. NR 439.04, Wis. Adm. Code]

(2) The permittee shall maintain the records in I.R.1.c.
[s. NR 407.09(4)(a)1., Wis. Adm. Code]

(3) The facility may be required to conduct tests and/or provide copies of manufacturer (cooling tower, or drift eliminator manufacturer) testing which demonstrate that the cooling tower drift rate does not exceed 0.01 wt% of the circulating water flow rate, upon request by the Department. [s. NR 439.06, Wis. Adm. Code]

c. Test Methods, Recordkeeping, and Monitoring:

(1) Whenever particulate matter emission testing is required, US EPA Method 5 (including condensable particulate by US EPA Method 202) or another method approved by the Department in writing shall be used to demonstrate compliance.
[s. NR 439.06(1), Wis. Adm. Code]

(2) Whenever drift rate testing of the cooling towers is conducted, the permittee shall use the Heated Glass Bead Isokinetic (HBIK) Test Method (CTI ATC-140) or other methods as approved by the Department in writing.
[s. NR 439.06, Wis. Adm. Code]

(3) The permittee shall determine and record the concentration of Total Dissolved Solids (TDS) in the cooling water at a frequency required under the WPDES permit.
[s. NR 439.04, Wis. Adm. Code]

(4) The facility shall keep and maintain documentation of the manufacture's design water design flow rate and circulation drift rate specification for the cooling towers installed at the facility.
[s. NR 439.04, Wis. Adm. Code]

(5) The permittee shall keep and maintain on site technical drawings, blueprints or equivalent records of the physical stack parameters. [s. NR 439.04(1)(d), Wis. Adm. Code]

R. Stack S22, Process P22 Cooling Towers	
Pollutant 2: Visible Emissions	
a. Limitations: (1) Number 1 of the Ringlemann chart or 20% Opacity [s. NR 431.05, Wis. Adm. Code]	
b. Compliance Demonstration: (1) The permittee shall comply with requirements in I.R.1.b. [s. 285.65(3), Wis. Stats.]	c. Test Methods, Recordkeeping, and Monitoring: (1) Whenever visible emissions compliance testing is required, USEPA Method 9 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04, Wis. Adm. Code shall be used. [s. NR 439.06(9)(a)1., Wis. Adm. Code]
Pollutant 3: Hazardous Air Pollutants	
a. Limitations: (1) The permittee shall not apply any chromium-based water treatment chemicals to the cooling towers. [s. NR 468.30(3), Wis. Adm. Code (MACT)]	
b. Compliance Demonstration: (1) The permittee shall maintain a description of the type of water treatment program used in the industrial process cooling tower(s), including the chemical name(s) and the average concentration for each water treatment additive or compound used in the industrial process cooling tower. [s. NR 439.04 and s. NR 468.30(4)(a)4., Wis. Adm. Code]	c. Test Methods, Recordkeeping, and Monitoring: (1) The permittee shall maintain and a copy of the material safety data sheet for each water treatment additive or chemical compound used in the industrial process cooling tower. [s. NR 439.04 and s. NR 468.30(4)(a)4., Wis. Adm. Code]

S. Specific Conditions Applicable to all WPL Facilities	
Pollutant: 1. Sulfur Dioxide *	
a. Limitations: (1) <u>Corporate Emission Limitation</u> : The average number of pounds of sulfur dioxide emissions per million British thermal unit of heat input from all boilers under the ownership or control of the permittee for any year may not exceed 1.20. [s. 285.41(2), Wis. Stats] *	
b. Compliance Demonstration: (1) <u>Annual Compliance Plan</u> - Each year WPL shall prepare an annual plan for achieving compliance with the emission rate under condition I.S.1.a.(1) that includes, at a minimum: (a) WPL's expected electricity demand; (b) WPL's annual operation plan; (c) The expected operation characteristics of each boiler operated by WPL, including: (i) The order to be used in placing the boilers into operational production; (ii) The planned maintenance schedule for each boiler;	c. Test Methods, Recordkeeping, and Monitoring: (1) WPL shall submit a copy of the Annual Compliance Plan required by condition I.S.1.b.(1) on or before October 1 of each year for the following calendar year to: (a) The Wisconsin Department of Natural Resources, Bureau of Air Management, 101 South Webster Street, P.O. Box 7921 (AM/7), Madison, WI 53707; and (b) The Wisconsin Public Service

S. Specific Conditions Applicable to all WPL Facilities**Pollutant: 1. Sulfur Dioxide ***

(iii) How any maintenance is expected to affect the methods of meeting electricity demands;

(iv) The amount of coal and other fossil fuels or other materials to be used for each boiler in operational production;

(v) The sulfur content (in pounds of sulfur dioxide per mmBTU of heat input) of coal and other fossil fuels or other materials to be used for each boiler in operational production;

(vi) The anticipated sulfur dioxide emissions from each boiler;

(vii) Contingency plans for unexpected events or increased demand including a summary of generation costs and the anticipated additional costs for reducing sulfur dioxide emissions under those circumstances;

(viii) The methods that will be used to achieve compliance with condition I.S.1.a.(1) in the following year including, if applicable, the provisions of any trading agreement under s. 285.41(2)(b)1., Wis. Stats.;

(ix) The total anticipated annual sulfur dioxide emissions from all boilers under the ownership or control of the permittee for each of the next 3 years. **[s. 285.41(3)(a), Wis. Stats.] ***

(2) WPL shall prepare an annual sulfur dioxide emission summary which outlines compliance status with the corporate emission limit in condition I.S.1.a.(1) for each calendar year. **[s. 285.41(6), Wis. Stats.]**

(2) Alternate Scenario - Trading to Comply with Condition I.S.1.a.(1):

(a) Two major utilities (as defined in s. 285.41(1)(f), Wis. Stats.) may enter into an agreement for trading emissions unless the sum of the proposed traded emissions and the projected annual emissions of the grantor major utility for the year to which the agreement will apply would exceed the actual annual emissions for the grantor major utility in 1985.

(b) To determine whether the major utility that is the grantor in an agreement is in compliance with the emission rate in condition I.S.1.a.(1) in a given year, the Department shall add the traded emissions and the grantor's annual emissions and divide the sum by the annual heat input of the grantor.

(c) To determine whether the major utility that is the grantee in an agreement is in compliance with the emission rate in condition I.S.1.a.(1) in a given year, the Department shall subtract the traded emissions from the grantee's annual emissions and divide the difference by the annual heat input of the grantee.

[s.285.41(2)(b), Wis. Stats] *

(3) Alternate Scenario - Variance: WPL may request a variance from the emission rate in condition I.S.1.a.(1) according to the following conditions:

(a) WPL may request a variance from the emission rate in condition I.S.1.a.(1) if the Department has not served WPL with written notice under s. 285.83, Wis. Stats. that WPL has violated condition I.S.1.a.(1); AND

(b) if any of the following variance conditions exist:

(i) A major electrical supply emergency within or outside this state.

(ii) A major fuel supply disruption.

(iii) An extended and unplanned disruption in the operation of a nuclear plant or low sulfur coal-fired boiler under the ownership or control of the major utility.

Commission, 610 North Whitney Way,
Madison, WI 53705.

[s. 285.41(3)(a), Wis. Stats.] *

(2) The annual sulfur dioxide emission summary required by condition I.S.1.b.(2) shall be submitted by March 1 for the preceding calendar year to:

(a) The Wisconsin Department of Natural Resources, Bureau of Air Management, 101 South Webster Street, P.O. Box 7921 (AM/7), Madison, WI 53707; and

(b) The Wisconsin Public Service Commission, 610 North Whitney Way, Madison, WI 53705.

[s. 285.41(6), Wis. Stats.] *

(3) Any requests for variance described in condition I.S.1.b.(3) shall be submitted to:

(a) The Wisconsin Department of Natural Resources, Bureau of Air Management, 101 South Webster Street, P.O. Box 7921 (AM/7), Madison, WI 53707; and

(b) The Wisconsin Public Service Commission, 610 North Whitney Way, Madison, WI 53705.

[285.41(4), Wis. Stats.] *

S. Specific Conditions Applicable to all WPL Facilities**Pollutant: 1. Sulfur Dioxide ***

(iv) The occurrence of an uncontrollable event not anticipated in the plan submitted under conditions I.S.1.b.(1) and c.(1).

(v) A plan by WPL to install and place into operation new technological devices that will enable it to achieve compliance with condition I.S.1.a.(1).

(c) With the request for a variance, WPL shall submit its plan for achieving compliance with condition I.S.1.a.(1).

(d) If the request is based on the variance conditions specified under condition I.S.1.b.(3)(b)(i) through (iv), the request shall include an explanation of why the major utility cannot achieve or remain in compliance by using fuel with a lower sulfur content or by environmental dispatching.

[s. 285.41(4), Wis. Stats.] *

S. Specific Conditions Applicable to all WPL Facilities	
Condition Type 2: Mercury Emissions Limits⁵⁷	
<p>a. Limitations:</p> <p>(1) Beginning January 1, 2010, the permittee may not cause, allow or permit mercury emissions from stationary sources of 25 megawatts or greater of the major utility on an annual basis in an amount which exceeds 60% of the mercury emissions baseline as determined by the department under s. NR 446.06. [s. NR 446.05, Wis. Adm. Code]*</p> <p>(2) Beginning January 1, 2015, an owner or operator of a small coal-fired EGU⁵⁸ shall limit mercury emissions to a level that is determined by the department to be the best available control technology (BACT). Notwithstanding, an owner or operator may elect to have a small coal-fired EGU comply with the mercury emission limits in I.S.2.a.(3) or I.S.2.a.(4) in accordance with the provisions in s. NR 446.17(2)(b). [s. NR 446.12(1) and (2), Wis. Adm. Code]*</p> <p>(3) Beginning January 1, 2015, an owner or operator of a large or a small coal-fired EGU designated by the department to meet the emission limitations and methodologies in s. NR 446 Subchapter III, shall achieve:</p> <p>(a) A minimum of 90% mercury emission reduction as measured from the mercury content of fuel combusted; or</p> <p>(b) Limit mercury emissions annually to 0.0080 pounds per gigawatt-hour (lbs/GWh) of electricity produced. [s. NR 446.13(1), Wis. Adm. Code]*</p> <p>(4) Mutipollutant Reduction Alternative. An owner or operator of a large or small coal-fired EGU may elect to meet the emission limitations in this section instead of the emission limitations of I.S.2.a.(2) & (3) in accordance with the provisions of s. NR 446.17(2). The following annual emission limitations for NO_x, SO₂ and mercury apply to each unit for which the owner or operator makes an election under this section:</p> <p>(a) For NO_x, beginning January 1, 2015, 0.07 pounds per mmBtu of heat input.</p> <p>(b) For SO₂, beginning January 1, 2015, 0.10 pounds per mmBtu of heat input.</p> <p>(c) For mercury emissions, all of the following:</p> <p>(i) Beginning January 1, 2015 and to December 31, 2017, a 70% mercury emission reduction as measured from the mercury content of fuel combusted or 0.0190 pounds per gigawatt-hour (lbs/GWh).</p> <p>(ii) Beginning January 1, 2018 and to December 31, 2020, an 80% mercury emission reduction as measured from the mercury content of fuel combusted or 0.0130 pounds per gigawatt-hour (lbs/GWh).</p> <p>(iii) Beginning January 1, 2021, a 90% mercury emission reduction as measured from the mercury content of fuel combusted or 0.0080 pounds per gigawatt-hour (lbs/GWh). [s. NR 446.14(1), Wis. Adm. Code]*</p>	
b. Compliance Demonstration:	c. Test Methods, Recordkeeping, and Monitoring:
<p>(1) An owner or operator subject to the limits in I.S.2.a.(1) shall determine annual mercury emissions for each emission unit using the methods described in NR 446.08. [s. NR 446.08, Wis. Adm. Code]*</p> <p>(2) An owner or operator may achieve compliance with I.S.2.a.(3) by either of the following methods:</p> <p>(a) <i>Unit-by-unit compliance.</i> Demonstrating that the mercury emissions from each coal-fired EGU meet either of</p>	<p>(1) An owner or operator subject to the limits in I.S.2.a.(1) shall report to the department, by March 1, annual mercury emissions for each emissions unit, beginning with calendar year 2010 emissions and ending with calendar year 2014 emissions using the methods described in NR 446.08. [s. NR 446.08, Wis. Adm. Code]*</p> <p>(2) No later than December 31, 2010, owners or operators of coal-fired EGUs affected by the requirements of I.S.2.a.(2),</p>

⁵⁷ Changes to ch. NR 446, the state mercury rule, were adopted by the Natural Resources Board at its June 2008 meeting and became effective December 1, 2008. The rule affects WPL's small and large coal-fired electric generating units and provides options for compliance with unit-specific limits or unit averaging. These options and requirements are explained in detail in NR 446. Major milestones of the rule, as revised, are contained within this section of the permit.

⁵⁸ The WPL – Columbia facility operates only large coal-fired EGUs.

S. Specific Conditions Applicable to all WPL Facilities**Condition Type 2: Mercury Emissions Limits⁵⁷**

the mercury emission limits in I.S.2.a.(3) using the measurement methods and calculation procedures in ss. NR 446.18 or 446.185.

(b) Unit averaging. Demonstrating that the sum of the mercury emissions from all coal-fired EGUs subject to the mercury emission limits in I.S.2.a.(3) does not exceed the sum of the annual allowable mercury emissions for the coal-fired EGUs using the measurement methods and calculation procedures in ss. NR 446.18 or 446.185.

[s. NR 446.13(2), Wis. Adm. Code]*

(3) An owner or operator may achieve compliance with I.S.2.a.(4) by either of the following methods:

(a) Unit-by-unit compliance. Demonstrating that the mercury, NOx and SO2 emissions from each coal-fired EGU meet the applicable emission limitation in I.S.2.a.(4) using the measurement methods and calculation procedures in ss. NR 446.18 or 446.185.

(b) Unit averaging. Demonstrating that for each pollutant, the sum of the emissions from all coal-fired EGUs subject to the emission limits in I.S.2.a.(4) do not exceed the sum of the annual allowable mercury, NOx or SO2 emissions for the coal-fired EGUs using the measurement methods and calculation procedures in ss. NR 446.18 or 446.185.

[s. NR 446.14(1) and (2)(b), Wis. Adm. Code]*

(4) An owner or operator of a coal-fired EGU that is subject to the limits in I.S.2.a.(2), (3) or (4) may request that the department certify excess mercury emission reductions as early emission reduction credits in accordance with s. NR 446.15. **[s. NR 446.15, Wis. Adm. Code]***

(5) Owners and operators of a coal fired EGU subject to the limits in I.S.2.a.(2), (3), or (4) shall comply with ss. NR 446.18 or 446.185, Wis. Adm. Code when determining mercury emissions and demonstrating compliance with applicable limits. **[s. NR 446.18(2) – (5), Wis. Adm. Code]***

(6) Owners and operators of a coal-fired EGU may use baseline emissions approved by the department as an alternative to s. NR 446.18(5)(a) in determining allowable mercury emissions.

[s. NR 446.185, Wis. Adm. Code]*

(7) Owners and operators of a coal-fired EGU subject to the limits of I.S.2.a.(4) may surrender certified mercury emission reduction credits in an amount that does not exceed 10% of the annual allowable emission total, in pounds.

[s. NR 446.15(6) – (7), Wis. Adm. Code]*

(3) or (4) shall identify for each unit under their ownership or control the mercury emission limitations in this subchapter for those units including any elections made under I.S.2.a.(2), (3) or (4). This identification shall be made to the department in writing. **[s. NR 446.17(2), Wis. Adm. Code]***

(3) Beginning March 1, 2016, and on or before March 1 of every year thereafter, the owner or operator of a coal-fired EGU subject to the limits in I.S.2.a.(2), (3) or (4) shall prepare and submit a compliance report for the previous year. The report shall include all of the following:

(a) The actual mercury emissions and, if subject to NOx and SO2 emission limitations under I.S.2.a.(4), the actual NOx and SO2 emissions from each coal-fired EGU for the previous year following the methodology in s. NR 446.18.

(b) The designated emission limitations for each coal-fired EGU.

(c) The amount of early reduction emission credits certified under s. NR 446.15 and currently held by the owner or operator, in pounds, and the amount of certified early reduction emission credits being surrendered.

(d) A comparison of annual actual emissions minus any surrendered early emission reduction credits to the annual allowable emissions, in pounds, for each coal-fired EGU by the applicable emission limitation requirement established in I.S.2.a.(2), (3) or (4) using the methods and procedures in s. NR 446.18. **[s. NR 446.17(1), Wis. Adm. Code]***

(4) Owners and operators of small coal-fired EGUs electing a BACT limitation under I.S.2.a.(2) shall provide the department with a preliminary BACT determination no later than June 30, 2011.

[s. NR 446.17(3), Wis. Adm. Code]*

(5) Owners and operators of a coal-fired EGU subject to the limits of I.S.2.a.(2), (3) or (4) shall monitor emissions, heat input, electricity generation and process thermal energy, as required to demonstrated compliance, according to the methods and specifications in s. NR 446.18.

[s. NR 446.18(1), Wis. Adm. Code]*

T. Conditions Applicable to the Entire Facility**Condition 1. Reporting****a. Conditions:**

(1) Submit the results of monitoring or a summary of monitoring results required by this permit to the Department every 6 months.

(a) The time periods to be addressed by the submittal are: January 1 to June 30 and July 1 to December 31.

(b) The report shall be submitted to the South Central Region Air Management Program, Box 281, Reedsburg, WI 53959, phone (608) 524-3896 within 60 days after the end of each reporting period.

(c) All deviations from and violations of applicable requirements shall be clearly identified in the submittal.

(d) Each submittal shall be certified by a responsible official as to the truth, accuracy and completeness of the report.

[s. NR 439.03(1)(b), Wis. Adm. Code]

(2) Submit a certification of compliance with the requirements of this permit to the Department and U.S. EPA annually.

(a) The time period to be addressed by the report is the January 1 to December 31 period which precedes the report.

(b) The report shall be submitted to the Wisconsin Department of Natural Resources, Southern District Air Program, Box 281, Reedsburg, WI 53959, phone (608) 524-3896 and to Compliance Data - Wisconsin, Air and Radiation Division, U.S. EPA, 77 W. Jackson, Chicago, IL 60604 within 60 days after the end of each reporting period.

(c) The information included in the report shall comply with the requirements of Part II Section N of this permit.

(d) Each report shall be certified by a responsible official as to the truth, accuracy and completeness of the report.

[s. NR 439.03(1)(c), Wis. Adm. Code]

Condition Type 2: Quarterly Excess Emission Reports**a. Conditions:**

(1) The quarterly excess emission reports required by conditions I.B.2.c.(4), I.B.3.c.(3), I.B.4.c.(3), I.G.2.c.(4), I.G.3.c.(3) and I.G.4.c.(3) shall:

(a) Be Submitted to the Department of Natural Resources, South Central Air Program, Box 281, Reedsburg, WI 53959, phone (608) 524-3896, within 30 days following the end of each calendar quarter.

(b) Contain the following information:

(i) The magnitude of any excess emissions, and conversion factor or factors used;

(ii) The date and starting and ending times or duration of each period of excess emissions;

(iii) The periods of excess emissions that occur during startups, shutdowns, sootblowing, control equipment malfunction, process malfunction, fuel problems, other known causes or for unknown causes;

(iv) The cause of any malfunction and the measures taken to reduce excess emission;

(v) The date and starting and ending times of any period during which the monitoring system was inoperative for and reason or causes, including monitor malfunction or calibration, except zero and span checks. The report shall identify the repairs or adjustments made to the system;

(vi) The date and starting and ending time of an period during which the process being monitored was inoperative;

(vii) When no period of excess emission occurred during the quarter and the monitoring system had no period of downtime, an excess emission report shall be filed stating such information.

[ss. NR 439.09(10), NR 439.09(10)(a) and NR 440.07(3), Wis. Adm. Code]

(2) If the permittee receives written approval from the Department, they may, instead of the full excess emission reports required by conditions I.B.2.c.(4), I.B.3.c.(3) and I.B.4.c.(3), submit a summary excess emission report. This summary excess emission report shall be submitted on a form provided by the Department or in a format approved by the Department.

[ss. NR 439.09(10)(d) and NR 440.07(4), Wis. Adm. Code]

T. Conditions Applicable to the Entire Facility**Condition Type 3: Compliance Testing****a. Conditions:**

(1) Whenever compliance emission tests are required by the Department:

(a) Any compliance emission tests required by the Department shall be conducted while operating at 100% capacity. If operation at 100% capacity is not feasible, the sources shall operate at a capacity which is approved by the Department in writing.

(b) The reference test methods outlined in this permit shall be used unless an alternate, U.S. EPA approved, test method is approved by the Department in writing.

(c) The Department shall be informed at least 20 working days prior to any tests so a Department representative can witness the testing.

(d) At the time of notification, a compliance test plan shall also be submitted for approval.

(e) Two copies of the report on any required tests shall be submitted to the Department for evaluation within 60 days after the tests.

[s. NR 439.07, Wis. Adm. Code]

T. Conditions Applicable to the Entire Facility**Condition Type 4: Additional Reference Test Methods****a. Conditions:**

(1) Reference Test Method for Coal Sampling: Whenever coal sampling is required, it shall be performed according to ASTM D2234-02, Standard Test Methods for Collection of a Gross Sample of Coal. [s. NR 439.08(1)(a), Wis. Adm. Code]

(2) Reference Test Method for Preparing Coal for Analysis: Whenever preparation of a coal sample for analysis is required, it shall be performed according to ASTM D2013-01, Standard Method of Preparing Coal Samples for Analysis.

[s. NR 439.08(1)(b), Wis. Adm. Code]

(3) Reference Test Method for the Sulfur Content in Coal: Whenever the sulfur content of a coal sample is required, it shall be determined according to ASTM D3177-02, Standard Test Methods for Total Sulfur in the Analysis Sample of Coal and Coke, or ASTM D4239-04a, Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods. [s. NR 439.08(1)(c), Wis. Adm. Code]

(4) Reference Test Method for Heat Content in Coal: Whenever the heat content of a coal sample is required, it shall be determined according to ASTM D5865-04, Standard Test Method for Gross Calorific Value of Coal and Coke.

[s. NR 439.08(1)(d), Wis. Adm. Code]

(5) Reference Test Method for Ash Content in Coal: Whenever the ash content of a coal sample is required, it shall be determined according to ASTM D3174-04, Standard Test Method for Ash in the Analysis Sample of Coal and Coke from Coal. [s. NR 439.08(1)(e), Wis. Adm. Code]

(6) Reference Test Method for Moisture Content in Coal: Whenever the moisture content of a coal sample is required, it shall be determined according to ASTM D3173-02, Standard Test Method for Moisture in the Analysis Sample of Coal and Coke.

[s. NR 439.08(1)(f), Wis. Adm. Code]

(7) Reference Test Method for Ultimate Analysis of Coal: Whenever the ultimate analysis of a coal sample is required, it shall be determined according to ASTM D3176-89, Standard Practice for Ultimate Analysis of Coal and Coke. [s. NR 439.08(1)(g), Wis. Adm. Code]

T. Conditions Applicable to the Entire Facility**Condition Type 4: Additional Reference Test Methods**

(8) Reference Test Method for Liquid Fossil Fuel Sampling: Whenever liquid fossil fuel sampling is required, it shall be performed according to ASTM D4057-95, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, or ASTM D4177-95, Standard Practice for Automatic Sampling of Petroleum and Petroleum Products.

[s. NR 439.08(2)(a), Wis. Adm. Code]

(9) Reference Test Method of Sulfur Content in Liquid Fossil Fuel: Whenever the sulfur content of a liquid fossil fuel sample is required, it shall be determined according to ASTM D129-00, Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), ASTM D1552-03, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method), or ASTM D4294-03, Standard Test Method for Sulfur in Petroleum Products by Energy-Dispersive X-ray Fluorescence Spectroscopy. [s. NR 439.08(2)(b), Wis. Adm. Code]

(10) Reference Test Method of Heat Content in Liquid Fossil Fuel: Whenever the heat content of a liquid fossil fuel sample is required, it shall be determined according to ASTM D240-02, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by a Bomb Calorimeter. [s. NR 439.08(2)(c), Wis. Adm. Code]

(11) Reference Test Method for Sampling and Analysis of Fuels Other Than Coal and Liquid Fossil Fuel: Whenever sampling and analysis of a fuel other than coal and liquid fossil fuel is required, it shall be determined by methods and procedures approved, in writing, by the Department. [s. NR 439.08(3), Wis. Adm. Code]

T. Conditions Applicable to the Entire Facility**Condition Type 5: Fugitive Dust Sources****a. Limitations:**

(1) The permittee shall maintain and follow a fugitive dust control plan for all potential sources of fugitive dust emissions. This plan shall be submitted to the Department upon request. A copy of the plan shall be kept at the facility.

[s. NR 415.04(2), Wis. Adm. Code]

(2) **REQUIREMENTS FOR OUTDOOR FUGITIVE COAL DUST EMISSIONS.** No later than June 30, 2007, the owner or operator of a source that handles coal or maintains a coal storage pile shall achieve compliance with this section by having the ability to control, in a timely manner, outdoor fugitive coal dust emissions in an effort to prevent emissions off the source property. [s. NR 445.10(2) (a), Wis. Adm. Code]

(3) **REQUIREMENTS FOR NON-FUGITIVE COAL DUST EMISSIONS TO THE AMBIENT AIR.** No later than June 30, 2007 permittee shall limit visible emissions from each source to 10% opacity.

[ss. NR 445.10(3)(a), Wis. Adm. Code]

b. Compliance Demonstration:

(1) The permittee that handles coal or maintains a coal storage pile shall achieve compliance with this section by developing and implementing a plan to control outdoor fugitive coal dust emissions in an effort to prevent emissions off the source property.

[s. NR 445.10(2) (b), Wis. Adm. Code]

(2) The plan shall include all of the following:

(a) Identification of all sources of outdoor fugitive coal dust emissions from coal handling and coal storage piles on the source property.

(b) A description of the measures that can be taken to control, in a timely manner, outdoor fugitive coal dust emission from all sources identified under the following conditions:

- i. Routine operations.
- ii. Periods of high activity.
- iii. Periods of increased probability of outdoor fugitive dust emissions.
- iv. When equipment used to control outdoor fugitive coal dust emissions malfunctions.

[s. NR 445.10(2)(b), Wis. Adm. Code]

c. Test Methods, Recordkeeping, and Monitoring:

(1) The permittee shall do the following:

(a) Keep records of actions taken to control outdoor fugitive coal dust emissions in accordance with s. NR 439.04(2).

(b) Keep a copy of the plan and records of all actions taken at the facility for inspection upon request.

[s. NR 445.10(2)(c), and (2)(d), Wis. Adm. Code]

(2) **COMPLIANCE CERTIFICATION.** No later than June 30, 2007, the owner or operator of a source subject to this section shall certify the source's compliance status. An owner or operator of a source that has requirements at least as stringent as the requirements in I.T.5.a.(2) or (3) in a permit or order may so state in his or her certification.

NOTE: This is a one-time certification. Certification forms may be obtained from, and submitted to:

Wisconsin Department of Natural Resources
Bureau of Air Management
PO Box 7921

Madison, WI 53707-7921

Attention: NR 445 Certification form for handling and storage of coal.

[s. NR 445.10(4), Wis. Adm. Code]

T. Conditions Applicable to the Entire Facility**Condition Type 6: Malfunction Prevention and Abatement Plan****a. Limitations**

(1) A malfunction prevention and abatement plan shall be prepared and followed for the plant.
[s. NR 439.11, Wis. Adm. Code]

(2) All air pollution control equipment shall be operated and maintained in conformance with good engineering practices (i.e. operated and maintained according to manufacturer's specifications and directions) to minimize the possibility for the exceedance of any emission limitations. [s. NR 439.11(4), Wis. Adm. Code]

(3) The facility shall submit the plan to the Wisconsin Department of Natural Resources South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI, 53959, for review. The department may amend the plan if deemed necessary for malfunction prevention or for the reduction of excess emissions during malfunctions.
[s. NR 439.11(2), Wis. Adm. Code]

b. Compliance Demonstration:

(1) The malfunction prevention and abatement plan shall be developed to prevent, detect and correct malfunctions or equipment failures which may cause any applicable emissions limitation to be violated or which may cause air pollution. [s. NR 439.11(1), Wis. Adm. Code]

(2) This malfunction prevention and abatement plan shall include installation, maintenance and routine calibration procedures for the process monitoring and control equipment instrumentation. This plan shall require an instrumentation calibration at the frequency specified by the manufacturer, yearly or at a frequency based on good engineering practice as established by operational history, whichever is more frequent. Inspection and calibration shall also be conducted whenever instrumentation anomalies are noted.
[ss. NR 407.09(1)(c)1.c., NR 439.055(4) and s. NR 439.11, Wis. Adm. Code]

(3) The malfunction prevention and abatement plan shall require a copy of the operation and maintenance manual for the control equipment to be maintained on site. The plan shall contain all of the elements in s. NR 439.11(1)(a) – (h), Wis. Adm. Code.

c. Test Methods, Recordkeeping, and Monitoring:

(1) A written copy of the malfunction prevention and abatement plan shall be kept at the plant and shall be updated once every five years.
[s. NR 439.11(1), Wis. Adm. Code]

(2) The facility shall maintain an inventory of normal consumable items necessary to ensure operation of the control device(s) in conformance with the manufacturer's specifications and recommendations.
[s. NR 439.11, Wis. Adm. Code]

(3) The facility shall maintain records of the instrumentation calibrations.
[s. NR 439.04, Wis. Adm. Code]

T. Conditions Applicable to the Entire Facility**Condition Type 7: Environmental Management System⁵⁹****a. Limitations**

(1) The permittee shall implement an environmental management system at WPL – Columbia within one year of the date of issuance of the permit which shall include:

- (a) Adoption of an environmental policy that includes a commitment to compliance with environmental requirements, pollution prevention, and continual improvement in environmental performance;
- (b) An analysis of the environmental aspects and impacts of the facility's activities;
- (c) Plans and procedures to achieve and maintain compliance with environmental requirements;
- (d) Identification of all environmental requirements applicable to the facility;
- (e) A process for setting environmental objectives and developing appropriate action plans to meet the objectives;
- (f) Establishment of a structure for operational control and responsibilities for environmental performance;
- (g) An employee training program to develop awareness of and competence to manage environmental issues;
- (h) A plan for taking actions to prevent environmental problems and for taking emergency response and corrective actions when environmental problems occur;
- (i) A communication plan for collaboration with employees, the public, and the department on the design of projects and activities to achieve continuous improvement in environmental performance;
- (j) Procedures for control of documents and for keeping records related to environmental performance;
- (k) Environmental management system audits; and
- (l) A plan for continually improving environmental performance and provision for senior management review of the plan.

[s. 285.65(2), Wis. Stats. and 08-CX-003]

b. Compliance Demonstration:

(1) The permittee will consult with Department staff on the development and implementation process as described in I.T.7.a.(1) to ensure the adequacy of the system. [s. 285.65(2), Wis. Stats. and 08-CX-003]

(2)(a) The permittee shall notify the Department within thirty (30) days of fully implementing the Environmental Management System described in I.T.7.a.(1).

(b) This notification should include two copies of documentation showing that the EMS adequately addresses the criteria outlined in I.T.7.a.(1)
[s. 285.65(2), Wis. Stats. and 08-CX-003]

c. Test Methods, Recordkeeping, and Monitoring:

(1) The permittee shall retain documentation of the outcome of consultations with Department staff per I.T.7.b(1).
[s. 285.65(2), Wis. Stats. and 08-CX-003]

(2) The permittee shall retain documentation of steps taken to implement the environmental management system described in I.T.7.a.(1) . [s. 285.65(2), Wis. Stats. and 08-CX-003]

⁵⁹ This condition shall apply only to Permit No. 111003090-P20 and shall not be included in any subsequent permit renewals.

STATE OF WISCONSIN - ACID RAIN PORTION OF OPERATION PERMIT**Issued to: Columbia Generating Station****ORIS Code: 8023**

Unit ID#⁶⁰	Owned and Operated By:	New Unit - Commence Operation Date⁶¹	New Unit - Monitor Certification Deadline
1	Wisconsin Power & Light	NA	NA
2	Wisconsin Power & Light	NA	NA

Operation Permit Effective Dates: 09/02/2008 through 09/02/2013

The acid rain portion of this operation permit shall take effect on January 1, 2000. [s. NR 409.11(1)(a)3., Wis. Adm. Code]

Duty to Reapply: The designated representative shall submit a complete acid rain portion of an operation permit application at least 12 months, but not more than 18 months, before this permit expires. [s. NR 409.08(1)(c), Wis. Adm. Code]

Permit Shield: Operation in accordance with the acid rain portion of this operation permit shall be deemed to be operation in compliance with the acid rain program, except as provided in s. NR 409.06(7)(f), Wis. Adm. Code. [s. NR 409.10(2), Wis. Adm. Code]

Contents of Acid Rain Portion of the Operation Permit

1. Statement of Basis
2. Unit Specific Requirements
3. Standard Requirements
4. General Requirements
5. Comments, notes and justifications regarding permit decisions.

1. Statement of Basis

Statutory and Regulatory Authorities: This portion of the operation permit is issued pursuant to ss. 285.60 to 285.66, Wis. Stats., Titles IV and V of the federal Clean Air Act (42 USC 7651 to 7661f), and chs. NR 407 and 409, Wis. Adm. Code.

2. Specific Requirements for Units 1 and 2

POLLUTANT	LIMITATION	COMPLIANCE PLAN
a. Sulfur dioxide	<p>(1) Sulfur dioxide emissions from EACH unit may not exceed the number of allowances that the source lawfully holds under the acid rain program, including allowances allocated directly to the source through the acid rain program and allowances obtained through the emissions trading provisions of the acid rain program, subject to the following qualifications: [s. NR 407.09(2)(a), Wis. Adm. Code]</p> <p>(a) No permit revision may be required for increases in</p>	<p>(3) The permittee shall, as of the allowance transfer deadline,⁶² for these phase II units, hold allowances in EACH unit's compliance subaccount [after deductions under 40 CFR 73.34(c)] not less than the total annual emissions of sulfur</p>

⁶⁰ Provided by the National Allowance Database for the Federal Acid Rain Program.

⁶¹ NA = Not Applicable

⁶² The allowance transfer deadline is midnight of January 30 or, if January 30 is not a business day, midnight of the first business day thereafter.

2. Specific Requirements for Units 1 and 2

POLLUTANT	LIMITATION	COMPLIANCE PLAN
	<p>emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that the increases do not require a permit revision under any other applicable requirement;</p> <p>(b) No limit may be placed on the number of allowances that may be held by the stationary source;</p> <p>(c) A stationary source may not use allowances as a defense to noncompliance with any applicable requirements other than the requirements of the acid rain program; and</p> <p>(d) Any acid rain allowance shall be accounted for according to the procedures established in the acid rain program.</p> <p>(2) The permittee shall operate EACH unit in compliance with the standard sulfur dioxide requirements of condition 3.c. of the acid rain portion of this permit. [s. NR 409.06(3)(a)2, Wis. Adm. Code]</p>	<p>dioxide from the unit. The permittee is not applying for any compliance options under 40 CFR 72.40(b) or s. NR 409.09(1)(b), Wis. Adm. Code. [s. NR 409.06(3)(a)1., Wis. Adm. Code.]</p>
b. Nitrogen oxides	<p>(1) <u>Nitrogen Oxides - Early Election Plan:</u></p> <p>(a) The following affected units are governed by an approved early election plan and are subject to the emission limitations for NO_x as outlined below, as provided under 40 CFR 76.5(a) and 40 CFR 76.8(a)(2), except as provided under 40 CFR 76.8(e)(3)(iii).</p> <p>(i) Unit 1 - 0.45 pounds per mmBTU;</p> <p>(ii) Unit 2 - 0.45 pounds per mmBTU;</p> <p>(b) <u>Liability:</u></p> <p>(i) The permittee shall be liable for any violation of the early election plan by Units 1 and 2 or 40 CFR 76.8 at those Units.</p> <p>(ii) The permittee shall be liable, beginning January 1, 2000, for fulfilling the obligations in 40 CFR Part 77.</p> <p>(c) <u>Termination:</u></p> <p>(i) The approved early election plan shall be in effect for Units 1 and 2 only until the earlier of January 1, 2008 or January 1 of the calendar year for which a termination of the plan takes effect.</p> <p>(ii) If the designated representative of Units 1 and 2 fails to demonstrate compliance with the applicable emissions limitation listed in condition 2.b.(1) and 40 CFR 76.5, for any year during the period beginning January 1, 1997 and ending December 31, 2007, the permitting authority will terminate the early election plan. This termination will take effect beginning January 1 of the year after the year for which there is a failure to demonstrate compliance, and the designated representative may not submit a new early election plan.</p> <p>(iii) The designated representative may terminate the early election plan for Units 1 and 2 any year prior to 2008 but may not submit a new early election plan. In order to terminate the plan, the designated representative must submit a notice under</p>	<p>(2) For nitrogen oxides these units will meet the applicable limitations established by regulations implementing 40 CFR part 76.</p>

2. Specific Requirements for Units 1 and 2

POLLUTANT	LIMITATION	COMPLIANCE PLAN
	<p>40 CFR 72.40(d) by January 1 of the year for which the termination is to take effect.</p> <p>(iv) If the early election plan is terminated any year prior to 2000, Units 1 and 2 shall meet, beginning January 1, 2000, the applicable emission limitations for NO_x for Phase II Units with Group 1 boilers under 40 CFR 76.7.</p> <p>(v) If the early election plan is terminated on or after 2000, the unit shall meet, beginning on the effective date of the termination, the applicable emissions limitation for NO_x for Phase II units with Group 1 boilers under 40 CFR 76.7.</p>	

3. Standard Requirements for all Affected Units

CONDITION	REQUIREMENTS
a. Permit Requirements	<p>(1) The designated representative of each affected source and each affected unit at the source shall:</p> <p>(a) Except for a phase I acid rain permit to be issued by U.S. EPA, submit a complete acid rain portion of an operation permit application (including a compliance plan) under 40 CFR part 72 and ch. NR 409, Wis. Adm. Code in accordance with the deadlines specified in s. NR 409.08(1), Wis. Adm. Code and 40 CFR 72.30; and</p> <p>(b) Submit in a timely manner any supplemental information that the Department determines is necessary in order to review an acid rain portion of an operation permit application and issue or deny an acid rain portion of an operation permit application.</p> <p>[s. NR 409.06(1)(a), Wis. Adm. Code]</p> <p>(2) The owners and operators of each affected source and each affected unit at the source shall:</p> <p>(a) Operate the unit in compliance with a complete acid rain portion of an operation permit application or a superseding acid rain portion of an operation permit issued by the Department; and</p> <p>(b) Have an acid rain portion of an operation permit.</p> <p>[s. NR 409.06(1)(b), Wis. Adm. Code]</p>
b. Monitoring Requirements	<p>(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR parts 74, 75, and 76 and section 407 of the act (42 USC 7651f) and regulations implementing section 407 of the act. [s. NR 409.06(2)(a), Wis. Adm. Code]</p> <p>(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 and section 407 of the act (42 USC 7651f) and regulations implementing section 407 of the act shall be used to determine compliance by the unit with the acid rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the acid rain program. [s. NR 409.06(2)(b), Wis. Adm. Code]</p> <p>(3) The requirements of 40 CFR parts 74 and 75 and regulations implementing section 407 of the act (42 USC 7651f) do not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the act and other provisions of the operation permit for the source. [s. NR 409.06(2)(c), Wis. Adm. Code]</p>

3. Standard Requirements for all Affected Units

CONDITION	REQUIREMENTS
c. Sulfur Dioxide Requirements	<p>(1) The owners and operators of each source and each affected unit at the source shall:</p> <p>(a) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount, after deductions under 40 CFR 73.34(c), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and</p> <p>(b) Comply with the applicable acid rain emissions limitations for sulfur dioxide. [s. NR 409.06(3)(a), Wis. Adm. Code]</p> <p>(2) Each ton of sulfur dioxide emitted in excess of the acid rain emissions limitations for sulfur dioxide shall constitute a separate violation. [s. NR 409.06(3)(b), Wis. Adm. Code]</p> <p>(3) An affected unit shall be subject to the requirements under condition 3.c.(1) of the acid rain portion of this permit as follows:</p> <p>(a) Starting January 1, 2000, for an affected unit under s. NR 409.01(1)(a)2., Wis. Adm. Code; or</p> <p>(b) Starting on the later of January 1, 2000 or the monitor certification deadline under 40 CFR part 75, for an affected unit under s. NR 409.01(1)(a)3, Wis. Adm. Code. [s. NR 409.06(3)(c), Wis. Adm. Code]</p> <p>(4) Allowances shall be held in, deducted from, or transferred among allowance tracking system accounts in accordance with the acid rain program. [s. NR 409.06(3)(d), Wis. Adm. Code]</p> <p>(5) An allowance may not be deducted in order to comply with the requirements under condition 3..c.(1)(a) of this permit prior to the calendar year for which the allowance was allocated. [s. NR 409.06(3)(e), Wis. Adm. Code]</p> <p>(6) An allowance allocated by the U.S. EPA under the acid rain program is a limited authorization to emit sulfur dioxide in accordance with the acid rain program. No provision of the acid rain program, the acid rain portion of an operation permit application, the acid rain portion of an operation permit or the written exemption under ss. NR 409.04 and 409.05, Wis. Adm. Code and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization. [s. NR 409.06(3)(f), Wis. Adm. Code]</p> <p>(7) An allowance allocated by the U.S. EPA under the acid rain program does not constitute a property right. [s. NR 409.06(3)(g), Wis. Adm. Code]</p>
d. Nitrogen Oxides Requirements	<p>(1) The owners and operators of the source and each affected unit at the source shall comply with the applicable acid rain emission limitation for nitrogen oxides.⁶³</p>
e. Excess Emissions Requirements	<p>(1) The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan to the U.S. EPA, as required under 40 CFR part 77, and submit a copy to the Department. [s. NR 409.06(5)(a), Wis. Adm. Code]</p> <p>(2) The owners and operators of an affected unit that has excess emissions in any calendar year shall:</p> <p>(a) Pay to the U.S. EPA without demand the penalty required, and pay to the U.S. EPA upon demand the interest on that penalty, as required by 40 CFR part 77; and</p> <p>(b) Comply with the terms of an approved offset plan, as required by 40 CFR part 77. [s. NR 409.06(5)(b), Wis. Adm. Code]</p>

⁶³ A new subsection (NR 409.06(4), Wis. Adm. Code, Nitrogen Oxide Requirements), will be created based on 40 CFR part 76. Under this subsection, the owners and operators of the source and each affected unit at the source will have to comply with the applicable acid rain emissions limitations for nitrogen oxides.

3. Standard Requirements for all Affected Units

CONDITION	REQUIREMENTS
f. Recordkeeping and Reporting Requirements	<p>(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the U.S. EPA or the Department:</p> <p>(a) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;</p> <p>(b) All emissions monitoring information, in accordance with 40 CFR part 75;</p> <p>(c) Copies of all reports, compliance certifications, and other submissions and all records made or required under the acid rain program; and,</p> <p>(d) Copies of all documents used to complete an acid rain portion of an operation permit application and any other submission under the acid rain program or to demonstrate compliance with the requirements of ch. NR 409, Wis. Adm. Code and the acid rain program. [s. NR 409.06(6)(a), Wis. Adm. Code]</p> <p>(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the acid rain program, including those under s. NR 409.13, Wis. Adm. Code and 40 CFR part 75. [s. NR 409.06(6)(b), Wis. Adm. Code]</p>
g. Liability	<p>(1) Any person who knowingly violates any requirement or prohibition of the acid rain program, a complete acid rain portion of an operation permit application, an acid rain portion of an operation permit, or a written exemption under ss. NR 409.04 and NR 409.05, Wis. Adm. Code shall be subject to enforcement by the Department pursuant to ch. NR 494, Wis. Adm. Code and ss. 285.83 and 285.87, Wis. Stats. Any person who knowingly violates any requirement or prohibition of the acid rain program, a complete acid rain portion of an operation permit application, an acid rain portion of an operation permit, or a written exemption under 40 CFR 72.7 or 72.8 including any requirement for the payment of any penalty owed to the United States shall be subject to enforcement by the U.S. EPA pursuant to s. 113(c) of the Clean Air Act. [s. NR 409.06(7)(a), Wis. Adm. Code]</p> <p>(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement by the Department pursuant to ch. NR 494, Wis. Adm. Code and ss. 285.83 and 285.87, Wis. Stats. Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement by the U.S. EPA pursuant to s. 113(c) of the Clean Air Act and 18 U.S.C. 1001. [s. NR 409.06(7)(b), Wis. Adm. Code]</p> <p>(3) No permit revision may excuse any violation of the requirements of ch. NR 409, Wis. Adm. Code, and the acid rain program that occurs prior to the date that the revision takes effect. [s. NR 409.06(7)(c), Wis. Adm. Code]</p> <p>(4) Each affected source and each affected unit shall meet the requirements of ch. NR 409, Wis. Adm. Code, and the acid rain program. [s. NR 409.06(7)(d), Wis. Adm. Code]</p> <p>(5) Any provision of the acid rain program that applies to an affected source, including a provision applicable to the designated representative of an affected source, shall also apply to the owners and operators of such source and of the affected units at the source. [s. NR 409.06(7)(e), Wis. Adm. Code]</p> <p>(6) Any provision of the acid rain program that applies to an affected unit, including a provision</p>

3. Standard Requirements for all Affected Units

CONDITION	REQUIREMENTS
	<p>applicable to the designated representative of an affected unit, shall also apply to the owners and operators of such unit. Except as provided under s. NR 409.09(2), Wis. Adm. Code, 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR part 76.11(NO_x averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75, including 40 CFR 75.16, 75.17, and 75.18, the owners and operators and the designated representative of one affected unit are not liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.</p> <p>[s. NR 409.06(7)(f), Wis. Adm. Code]</p> <p>(7) Each violation of a provision of ch. NR 409, Wis. Adm. Code and 40 CFR parts 72, 73, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation. [s. NR 409.06(7)(g), Wis. Adm. Code]</p>
<p>h. Effect on Other Authorities</p>	<p>(1) No provision of the acid rain program, an acid rain portion of an operation permit application, an acid rain portion of an operation permit, or a written exemption under s. NR 409.04 or NR 409.05, Wis. Adm. Code, or 40 CFR part 72.7 or 72.8 may be construed as:</p> <p>(a) Except as expressly provided in title IV of the act (42 USC 7651 to 7651o), exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the act, including the provisions of title I of the act relating to applicable national ambient air quality standards or state implementation plans;</p> <p>(b) Limiting the number of allowances a unit can hold; provided, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the act;</p> <p>(c) Requiring a change of any kind in any state law regulating electric utility rates and charges, affecting any state law regarding the state regulation, or limiting the state regulation, including any prudence review requirements under state law;</p> <p>(d) Modifying the federal power act (16 USC 791a et seq.) or affecting the authority of the federal energy regulatory commission under the federal power act; or,</p> <p>(e) Interfering with or impairing any program for competitive bidding for power supply in a state in which the program is established.</p> <p>[s. NR 409.06(8), Wis. Adm. Code]</p>

4. General Requirements for all Affected Units	
CONDITION	REQUIREMENTS
a. Reporting	<p>(1) <u>Annual Compliance Certification Report</u>: For each calendar year in which a unit is subject to the acid rain emissions limitations, the designated representative shall submit to the U.S. EPA and to the Department within 60 days after the end of the calendar year, an annual compliance certification report for the unit in compliance with 40 CFR 72.90. For the purpose of determining compliance with the acid rain emissions limitations and reduction requirements, total tons for a year shall be calculated as the sum of all recorded hourly emissions rates, or the tonnage equivalent of the recorded hourly emissions rates, in accordance with 40 CFR part 75, with any remaining fraction of a ton equal to or greater than 0.50 ton deemed to equal one ton and any fraction of a ton less than 0.50 ton deemed not to equal any ton.⁶⁴</p> <p>[s. NR 409.13(1), Wis. Adm. Code]</p>
b. Submissions	<p>(1) The designated representative shall submit a certificate of representation, and any superseding certificate of representation, to the U.S. EPA in accordance with subpart B of 40 CFR part 72 and, concurrently, shall submit a copy to the Department. The designated representative may disregard this requirement if the aforementioned certificate has already been submitted to the U.S. EPA and the Department.</p> <p>[s. NR 409.07(1)(a), Wis. Adm. Code]</p> <p>(2) Each submission under the acid rain program shall be submitted, signed and certified by the designated representative for all sources on behalf of which the submission is made.</p> <p>[s. NR 409.07(1)(b), Wis. Adm. Code]</p> <p>(3) In each submission under the acid rain program, the designated representative shall certify, by his or her signature:</p> <p>(a) The following statement, which shall be included verbatim in the submission: “I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made.”</p> <p>(b) The following statement which shall be included verbatim in the submission: “I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best proof my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.” [s. NR 409.07(1)(c), Wis. Adm. Code]</p> <p>(4) The designated representative of a source shall serve notice on each owner and operator of the source and of an affected unit at the source:</p> <p>(a) By the date of submission, of any acid rain program submissions by the designated representative;</p> <p>(b) Within 10 business days of receipt of a determination, of any written determination by the U.S. EPA or the Department; and</p> <p>(c) Provided that the submission or determination covers the source or the unit.</p> <p>[s. NR 409.07(1)(e), Wis. Adm. Code]</p> <p>(5) The designated representative of a source shall provide each owner and operator of an affected unit at the source a copy of any submission or determination under condition 4.b.(4) of the acid rain portion of this</p>

⁶⁴ Please note that your facility will have two (2) compliance certification reporting requirements: one for the operation permit portion, and one for the acid rain portion of this permit. Submitting a complete annual compliance certification in accordance with this condition will satisfy the compliance certification requirement for the acid rain portion of this permit. See the “Total Facility” portion of the operation permit portion for the other compliance certification reporting requirement.

4. General Requirements for all Affected Units

CONDITION	REQUIREMENTS
	<p>permit, unless the owner or operator expressly waives the right to receive a copy. [s. NR 409.07(1)(f), Wis. Adm. Code]</p>
<p>c. Severability</p>	<p>(1) Invalidation of the acid rain portion of an operation permit does not affect the continuing validity of the rest of the operation permit, nor shall invalidation of any other portion of the operation permit affect the continuing validity of the acid rain portion of the permit. [s. NR 409.11(1)(c), Wis. Adm. Code]</p>
<p>d. Appeal Procedures</p>	<p>(1) Appeals of the acid rain portion of this operation permit issued by the Department that do not challenge or involve decisions or actions of the U.S. EPA under 40 CFR parts 72, 73, 75, 77 and 78 and regulations implementing sections 407 and 410 (42 USC 7651f and 7651i) of the act shall be conducted according to the procedures in ch. NR 407 and ss. 285.13(1), 285.81 and 227.40 to 227.60, Wis. Stats. The permit shield under s. NR 409.10(2) shall continue to be in effect during the appeal process. Appeals of the acid rain portion of a permit that challenge or involve decisions or actions of the U.S. EPA shall follow the procedures under 40 CFR part 78 and section 307 of the act (42 USC 7607). Decisions or actions include, but are not limited to, allowance allocations, determinations concerning alternative monitoring systems and determinations of whether a technology is a qualifying repowering technology. [s. NR 409.11(2)(a), Wis. Adm. Code]</p> <p>(2) No state or administrative or judicial appeal of the acid rain portion of an operation permit may be allowed to commence more than 30 days following the issuance of the acid rain portion of an operation permit, as provided by ss. 285.81 and 227.53, Wis. Stats. [s. NR 409.11(2)(b), Wis. Adm. Code]</p> <p>(3) The U.S. EPA may intervene as a matter of right in any state administrative appeal of an acid rain portion of an operation permit or denial of an acid rain portion of an operation permit. [s. NR 409.11(2)(c), Wis. Adm. Code]</p> <p>(4) No administrative appeal concerning an acid rain requirement may result in a stay of the following requirements:</p> <ul style="list-style-type: none"> (a) The allowance allocations for any year during which the appeal proceeding is pending or is being conducted. (b) Any standard requirement under s. NR 409.06, Wis. Adm. Code. (c) The emissions monitoring and reporting requirements applicable to the affected units at an affected source under 40 CFR part 75. (d) Uncontested provisions of the decision on appeal. (e) The terms of a certificate of representation submitted by a designated representative under subpart B of 40 CFR part 72. <p>[s. NR 409.11 (2)(d), Wis. Adm. Code]</p>

5. Comments, Notes and Justifications: None

PART III: COMPLIANCE ASSURANCE MONITORING PLAN

**Compliance Assurance Monitoring Plan
Alliant Energy – WP&L
Columbia Generating Station
Pardeeville, WI**

Permit # 111003090-P01

November 2001

1.0 Applicability

This Compliance Assurance Monitoring (CAM) Plan has been prepared to comply with the requirements of 40 CFR Part 64. Since the facility's Title V air permit was issued prior to when 40 CFR Part 64 was finalized, this plan is being prepared and submitted as part of the Title V renewal process.

Due to the foresight of the WDNR during the initial Title V permit process, this facility has been practicing CAM since 1997. Therefore, this plan consists of the compliance activities contained in the existing air permit, incorporated into one compliance plan.

2.0 Facility Description

This facility is a steam electric generating unit, under SIC code 4911. The facility began operation in 1975 when Unit 1 was brought into service. In 1978, Unit 2 was brought into service. Both units rely on Powder River Basin coal, which is a low-sulfur fuel used to comply with sulfur dioxide emission limits. Water used at the facility is derived from high capacity wells as well as from the Wisconsin River.

The facility contains the following equipment/processes that are affected by CAM:

- Two, coal-fired boilers, each rated at 5885 mmBtu/hr, each exhausting to their own stack
- Coal unloading
- Coal storage and handling
- Coal fueling
- Combustion by-product collection, storage, and disposal

Types of pollution control equipment present at the facility that are affected by the CAM rule include the following:

- Electrostatic precipitators
- Baghouse dust collectors

3.0 Permit Limits for Emission Sources

The permit limits that apply to emission sources at the facility are included in Table 1 in Appendix 1.

4.0 Compliance Monitoring and Demonstration Methods

Compliance monitoring and demonstration (CMD) methods are those designed to ensure that particulate emission limits are not exceeded. In addition to the methods discussed below, part of the compliance monitoring assurance program at the facility is the semi-annual compliance certification report submitted to the DNR. This report details compliance with all of the required activities contained in the facility's Title V permit.

Since pollution control equipment at the facility is only installed to control particulate emissions, the CMD methods are only applicable to the electrostatic precipitator and baghouse dust collectors. These methods are presented in Table 2 and Table 3. Appendix 2 contains inspection forms related to the CMD activities.

Method	Parameter	Range	Conducted By	Frequency
Conduct stack test	Particulate, Method 5 and condensible backhalf	Within permit limits (see Table 1)	Qualified contractor	Every 24 months, waiver may be obtained from WDNR
Monitor operating parameters	Primary voltage	0-500 AC volts	Operations staff	Continuously
	Secondary voltage	0-100 DC kv	Operations staff	Continuously
	Primary current	0-200 AC amps	Operations staff	Continuously
	Secondary current	0-1 DC amps	Operations staff	Continuously
	Sparking rate	0-100 sparks/minute	Operations staff	Continuously
Inspection	System condition	Return to design	Plant staff or contractor	Every 18 months
Operate opacity monitoring system	Monitor opacity	Within permit limits (see Table 1)		Continuously
	Calibrate equipment	40 CFR Part 60	CEM Technicians	Daily, quarterly
	Maintenance	Equipment specifications	CEM Technicians	As needed
	QA/QC plan	40 CFR Part 60	CEM Technicians	Daily

Method	Parameter	Range	Conducted By	Frequency
Inspections	Visible emissions	Any	Operations staff	Daily
Performance	Differential pressure	2-12 inches water	Operations staff	Daily

Note: range of Dp for baghouses varies by equipment design

5.0 Maintenance Activities

The facility uses MAXIMO, a maintenance management system, to respond to equipment maintenance needs. This includes pollution control equipment maintenance. Part of the MAXIMO system is the preventative maintenance program where equipment maintenance is performed on a regular schedule before failure. In addition, maintenance activities are logged after equipment has failed or is near the failure point as indicated by inspection.

Electrostatic Precipitators (both Units)

1. Indications of abnormal operating parameters will trigger a maintenance work order request. The maintenance work order request system includes establishing a work priority to ensure that work on the ESP, or its control system, is performed as soon as possible to prevent non-compliance events.
2. Normally scheduled cleaning activities are performed by Operations staff or outside contractor.

3. Rapping sequences are evaluated on a regular basis by Electrical or Operations staff, or by outside contractor.
 4. Grounded and broken wires are repaired, as needed, by Electrical or Maintenance staff.
-
1. Indications of abnormal operating parameters will trigger a maintenance work order request. The maintenance work order request system includes establishing a work priority to ensure that work on the baghouse is performed as soon as possible to prevent non-compliance events. Additionally, for safety reasons, the work order priority is elevated for baghouse dust collectors on coal handling systems, which, if improperly operated, could result in injury to employees and damage to equipment.

6.0 Recordkeeping and Reporting

Records related to environmental compliance are maintained by the Environmental & Safety Specialist located at the facility.

Records related to emissions monitoring equipment are maintained by the CEM Technicians.

Maintenance records are maintained in the MAXIMO system or by Plant staff.

Reports required by the facility's Title V permit are maintained by the Environmental & Safety Specialist. Reports are submitted to the appropriate regulatory agency as required.

Non-compliance events are communicated following the requirements of the Title V permit.

APPENDIX 1 – Applicable Permit Limits

Equipment Name	Pollutant	Limit	Pollution Control Equipment
Unit 1 Boiler (B11/S21)	Particulate	0.6 lb/mmBtu	Electrostatic precipitator
	Visible Emissions	40% opacity	Electrostatic precipitator
	Sulfur Dioxide	3.2 lb/mmBtu, 24-hr ave.	N/A
Unit 2 Boiler (B12/S22)	Particulate	0.1 lb/mmBtu	Electrostatic precipitator
	Visible Emissions	20% opacity	Electrostatic precipitator
	Sulfur Dioxide	1.2 lb/mmBtu, 3-hr ave.	N/A
	Nitrogen Dioxide	0.7 lb/mmBtu, 3-hr ave. 0.45 lb/mmBtu, annual ave.	N/A
Dry Flyash Handling System Unit 1 (S01/P01)	Particulate	0.20 lb/1000 lb exhaust gas	Baghouse
	Visible	20%	Baghouse
Dry Flyash Handling System Unit 2 (S02/P02)	Particulate	0.20 lb/1000 lb exhaust gas	Baghouse
	Visible	20%	Baghouse
Coal Reclaim System Unit 2 (S07/P07)	Particulate	0.20 lb/1000 lb exhaust gas	Baghouse
	Visible	20%	Baghouse
Coal Train Car Dumping (S03/P03)	Particulate	0.13 lb/1000 lb exhaust gas	Baghouse
	Visible	40%	Baghouse
Coal Crusher House (S06/P06)	Particulate	0.06 lb/1000 lb exhaust gas	Baghouse
	Visible	40%	Baghouse
Coal Conveying System Tripper Room (S20/P20)	Particulate	0.20 lb/1000 lb exhaust gas	Baghouse
	Visible	40%	Baghouse
Coal Pile Handling Operations (S21/P21)	Particulate	Prevent airborne emissions	N/A (follow fugitive dust plan)
	Visible	40%	N/A (follow fugitive dust plan)

APPENDIX 2 – Visible Emission Inspection Forms

PART IV: CLEAN AIR INTERSTATE RULE (CAIR)**CAIR Permit Application**
(for sources subject to CAIR FIP)

Page 1

For more information, refer to 40 CFR 97.121, 97.122, 97.221, 97.222, 97.321, and 97.322

STEP 1
Identify the source by plant name, State, and ORIS or facility code

This submission is: ☒ New ☐ Revised

Plant Name	Columbia Energy Center	State	WI	ORIS/Facility Code	8023
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STEP 2
Enter the unit ID# for each CAIR unit and indicate to which CAIR programs each unit is subject (by placing an "X" in the column)

Unit ID#	NO _x Annual	SO ₂	NO _x Ozone Season
1	X	X	X
2	X	X	X

STEP 3
Read the standard requirements and the certification, enter the name of the CAIR designated representative, and sign and date

Standard Requirements(a) Permit Requirements.

(1) The CAIR designated representative of each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) required to have a title V operating permit and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) required to have a title V operating permit at the source shall:

- (i) Submit to the permitting authority a complete CAIR permit application under §97.122, §97.222, and §97.322 (as applicable) in accordance with the deadlines specified in §97.121, §97.221, and §97.321 (as applicable); and
- (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review a CAIR permit application and issue or deny a CAIR permit.

(2) The owners and operators of each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) required to have a title V operating permit and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) required to have a title V operating permit at the source shall have a CAIR permit issued by the permitting authority under subpart CC, CCC, and CCCC (as applicable) of 40 CFR part 97 for the source and operate the source and the unit in compliance with such CAIR permit.

(3) Except as provided in subpart II, III, and IIII (as applicable) of 40 CFR part 97, the owners and operators of a CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) that is not otherwise required to have a title V operating permit and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) that is not otherwise required to have a title V operating permit are not required to submit a CAIR permit application, and to have a CAIR permit, under subpart CC, CCC, and CCCC (as applicable) of 40 CFR part 97 for such CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) and such CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable).

Plant Name (from Step 1)

CAIR Permit Application
Page 2**STEP 3,
continued****(b) Monitoring, reporting, and recordkeeping requirements.**

(1) The owners and operators, and the CAIR designated representative, of each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) at the source shall comply with the monitoring, reporting, and recordkeeping requirements of subparts HH, HHH, and HHHH (as applicable) of 40 CFR part 97.

(2) The emissions measurements recorded and reported in accordance with subparts HH, HHH, and HHHH (as applicable) of 40 CFR part 97 shall be used to determine compliance by each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) with the CAIR NO_x emissions limitation, CAIR SO₂ emissions limitation, and CAIR NO_x Ozone Season emissions limitation (as applicable) under paragraph (c) of §97.106, §97.206, and §97.306 (as applicable).

(c) Nitrogen oxides emissions requirements.

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_x source and each CAIR NO_x unit at the source shall hold, in the source's compliance account, CAIR NO_x allowances available for compliance deductions for the control period under §97.154(a) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_x units at the source, as determined in accordance with subpart HH of 40 CFR part 97.

(2) A CAIR NO_x unit shall be subject to the requirements under paragraph (c)(1) of §97.106 for the control period starting on the later of January 1, 2009 or the deadline for meeting the unit's monitor certification requirements under §97.170(b)(1), (2), or (5) and for each control period thereafter.

(3) A CAIR NO_x allowance shall not be deducted, for compliance with the requirements under paragraph (c)(1) of §97.106, for a control period in a calendar year before the year for which the CAIR NO_x allowance was allocated.

(4) CAIR NO_x allowances shall be held in, deducted from, or transferred into or among CAIR NO_x Allowance Tracking System accounts in accordance with subparts EE, FF, GG, and II of 40 CFR part 97.

(5) A CAIR NO_x allowance is a limited authorization to emit one ton of nitrogen oxides in accordance with the CAIR NO_x Annual Trading Program. No provision of the CAIR NO_x Annual Trading Program, the CAIR permit application, the CAIR permit, or an exemption under §97.105 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.

(6) A CAIR NO_x allowance does not constitute a property right.

(7) Upon recordation by the Administrator under subpart EE, FF, GG, or II of 40 CFR part 97, every allocation, transfer, or deduction of a CAIR NO_x allowance to or from a CAIR NO_x source's compliance account is incorporated automatically in any CAIR permit of the source that includes the CAIR NO_x unit.

Sulfur dioxide emission requirements.

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR SO₂ source and each CAIR SO₂ unit at the source shall hold, in the source's compliance account, a tonnage equivalent of CAIR SO₂ allowances available for compliance deductions for the control period under §97.254(a) and (b) not less than the tons of total sulfur dioxide emissions for the control period from all CAIR SO₂ units at the source, as determined in accordance with subpart HHH of 40 CFR part 97.

(2) A CAIR SO₂ unit shall be subject to the requirements under paragraph (c)(1) of §97.206 for the control period starting on the later of January 1, 2010 or the deadline for meeting the unit's monitor certification requirements under §97.270(b)(1), (2), or (5) and for each control period thereafter.

(3) A CAIR SO₂ allowance shall not be deducted, for compliance with the requirements under paragraph (c)(1) of §97.206, for a control period in a calendar year before the year for which the CAIR SO₂ allowance was allocated.

(4) CAIR SO₂ allowances shall be held in, deducted from, or transferred into or among CAIR SO₂ Allowance Tracking System accounts in accordance with subparts FFF, GGG, and III of 40 CFR part 97.

(5) A CAIR SO₂ allowance is a limited authorization to emit sulfur dioxide in accordance with the CAIR SO₂ Trading Program. No provision of the CAIR SO₂ Trading Program, the CAIR permit application, the CAIR permit, or an exemption under §97.205 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.

(6) A CAIR SO₂ allowance does not constitute a property right.

(7) Upon recordation by the Administrator under subpart FFF, GGG, or III of 40 CFR part 97, every allocation, transfer, or deduction of a CAIR SO₂ allowance to or from a CAIR SO₂ source's compliance account is incorporated automatically in any CAIR permit of the source that includes the CAIR SO₂ unit.

Nitrogen oxides ozone season emissions requirements.

(1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO_x Ozone Season source and each CAIR NO_x Ozone Season unit at the source shall hold, in the source's compliance account, CAIR NO_x Ozone Season allowances available for compliance deductions for the control period under §97.354(a) in an amount not less than the tons of total nitrogen oxides emissions for the control period from all CAIR NO_x Ozone Season units at the source, as determined in accordance with subpart HHHH of 40 CFR part 97.

(2) A CAIR NO_x Ozone Season unit shall be subject to the requirements under paragraph (c)(1) of §97.306 for the control period starting on the later of May 1, 2009 or the deadline for meeting the unit's monitor certification requirements under §97.370(b)(1), (2), (3) or (7) and for each control period thereafter.

(3) A CAIR NO_x Ozone Season allowance shall not be deducted, for compliance with the requirements under paragraph (c)(1) of §97.306, for a control period in a calendar year before the year for which the CAIR NO_x Ozone Season allowance was allocated.

(4) CAIR NO_x Ozone Season allowances shall be held in, deducted from, or transferred into or among CAIR NO_x Ozone Season Allowance Tracking System accounts in accordance with subparts EEEE, FFFF, GGGG, and IIII of 40 CFR part 97.

(5) A CAIR NO_x allowance is a limited authorization to emit one ton of nitrogen oxides in accordance with the CAIR NO_x Ozone Season Trading Program. No provision of the CAIR NO_x Ozone Season Trading Program, the CAIR permit application, the CAIR permit, or an exemption under §97.305 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.

(6) A CAIR NO_x allowance does not constitute a property right.

(7) Upon recordation by the Administrator under subpart EEEE, FFFF, GGGG, or IIII of 40 CFR part 97, every allocation, transfer, or deduction of a CAIR NO_x Ozone Season allowance to or from a CAIR NO_x Ozone Season source's compliance account is incorporated automatically in any CAIR permit of the source.

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CAIR Permit Application
Page 3**STEP 3,
continued****(d) Excess emissions requirements.**

If a CAIR NO_x source emits nitrogen oxides during any control period in excess of the CAIR NO_x emissions limitation, then:

(1) The owners and operators of the source and each CAIR NO_x unit at the source shall surrender the CAIR NO_x allowances required for deduction under §97.154(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and

(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart, the Clean Air Act, and applicable State law.

If a CAIR SO₂ source emits sulfur dioxide during any control period in excess of the CAIR SO₂ emissions limitation, then:

(1) The owners and operators of the source and each CAIR SO₂ unit at the source shall surrender the CAIR SO₂ allowances required for deduction under §97.254(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and

(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart, the Clean Air Act, and applicable State law.

If a CAIR NO_x Ozone Season source emits nitrogen oxides during any control period in excess of the CAIR NO_x Ozone Season emissions limitation, then:

(1) The owners and operators of the source and each CAIR NO_x Ozone Season unit at the source shall surrender the CAIR NO_x Ozone Season allowances required for deduction under §97.354(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable State law; and

(2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of this subpart, the Clean Air Act, and applicable State law.

(e) Recordkeeping and Reporting Requirements.

(1) Unless otherwise provided, the owners and operators of the CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the permitting authority or the Administrator.

(i) The certificate of representation under §97.113, §97.213, and §97.313 (as applicable) for the CAIR designated representative for the source and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under §97.113, §97.213, and §97.313 (as applicable) changing the CAIR designated representative.

(ii) All emissions monitoring information, in accordance with subparts HH, HHH, and HHHH (as applicable) of 40 CFR part 97, provided that to the extent that subparts HH, HHH, and HHHH (as applicable) of 40 CFR part 97 provides for a 3-year period for recordkeeping, the 3-year period shall apply.

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable).

(iv) Copies of all documents used to complete a CAIR permit application and any other submission under the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable) or to demonstrate compliance with the requirements of the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable).

(2) The CAIR designated representative of a CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) and each CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) at the source shall submit the reports required under the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable) including those under subparts HH, HHH, and HHHH (as applicable) of 40 CFR part 97.

(f) Liability.

(1) Each CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) and each NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) shall meet the requirements of the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable).

(2) Any provision of the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable) that applies to a CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) or the CAIR designated representative of a CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) shall also apply to the owners and operators of such source and of the CAIR NO_x units, CAIR SO₂ units, and CAIR NO_x Ozone Season units (as applicable) at the source.

(3) Any provision of the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable) that applies to a CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) or the CAIR designated representative of a CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) shall also apply to the owners and operators of such unit.

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**STEP 3,
continued**

(g) Effect on Other Authorities.

No provision of the CAIR NO_x Annual Trading Program, CAIR SO₂ Trading Program, and CAIR NO_x Ozone Season Trading Program (as applicable), a CAIR permit application, a CAIR permit, or an exemption under § 97.105, §97.205, and §97.305 (as applicable) shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO_x source, CAIR SO₂ source, and CAIR NO_x Ozone Season source (as applicable) or CAIR NO_x unit, CAIR SO₂ unit, and CAIR NO_x Ozone Season unit (as applicable) from compliance with any other provision of the applicable, approved State implementation plan, a federally enforceable permit, or the Clean Air Act.

Certification

I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name

Signature

Date